A Clinical Lecture

ON

FOUR CASES IN WHICH STONES WERE REMOVED FROM THE URETER.

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I DO not propose to lecture on the diagnosis and treatment of stones in the ureter. This has been written about very fully by those who have had a larger experience of such cases. I propose to speak on four cases of the kind which have been under my own care, to discuss the causation of some of the symptoms presented by them, and to refer to some of the difficulties in their diagnosis, and a few points in treatment.

CASE I.

A. J. T., male, aged 33, was sent to me by Mr. Page, and admitted to the General Hospital, November 8th, 1907. He had suffered for six months from occasional pain in the left iliac fossa, and also a slight pain in the penis, as if he wanted to pass urine, but the pain was not associated with micturition. The first severe attack occurred three weeks before admission. The pain was in the left iliac fossa, and extended into the left testis, and was accompanied by retraction of the testis, and then the pain extended up to the left loin. The attack lasted about eight hours, and was accompanied by vomiting. There was some frequency of micturition in the attack, but this was also present at other times. There was no haematuria. There had been two more similar attacks before admission, and one occurred after, but there was no vomiting with the one after admission. The urine passed after this attack was normal. The day after there was slight tenderness on pressure over the left kidney, and sharp pain on jarring the kidney from the loin behind, but it was not tender over the abdominal course of the ureter, nor could any stone be felt in the lower end from the rectum. The urine examined on several occasions was normal. A skiagram taken by Mr. Ellington Jones, the skiagraphist to the hospital, showed a small stone in the course of the pelvic portion of the ureter.

Operation.

On November 15th I first made the usual loin incision to expose the kidney and upper end of the ureter. The kidney appeared normal. I then extended the incision to 1 in. above and internal to the anterior superior spine, but could not feel any stone along the course of the ureter. I then make a minute opening in the ureter, close to the pelvis of the kidney, but when the bougie was introduced through this, it was so high up that it had to curve too much to allow of its passage, and I had to make another opening an inch below. Through this the bougie passed downwards until it met with an obstruction below the pelvic brim, and then, on following down the bougie with my fingers, I could feel the stone, but I could not get at it without carrying my incision in the abdominal wall forwards another two inches, until it reached the outer border of the rectus, making altogether nearly a 12-inch incision. I thought I could work the stone just a little upwards, but this is very doubtful. The part of the ureter containing the stone lay imbedded in fibro-fatty tissue near the bladder, and it was by no means easy to reach it. I cut through the fibro-fatty tissue on to the stone and extracted it. In exposing the ureter I tore a small opening in the peritoneum, but closed it at once with a continuous puckering suture. I endeavoured to suture the ureter, and passed two deep fine catgut sutures, and one outer of very fine silk, through the tissue through which I had cut into the ureter, but whether the sutures actually passed through the ureteral wall I am not certain. They certainly did not diminish its lumen, as I had a bougie in it at the time of suturing. I then sounded the interior of the kidney through the highest ureteral opening, with negative result. Both upper ureteral openings (both minute) were sutured with one deep very fine catgut suture, and one outer one of very fine silk. The end of a rubber drainage tube was placed against the sutured lower end of the ureter, and the other end brought out of the loin wound. The muscles were sutured with No. 2 twenty-day Van Horne's catgut. The stone was irregular in shape, a light colour, and on its surface were some crystals. It only measured $\frac{5}{16}$ by $\frac{3}{16}$ in., or about $\frac{1}{4}$ in. in diameter.

After-History.

The patient had to have two injections of morphine in the first twenty-four hours. During this period there was only a slight brown tinge with the urine passed from the bladder. Urine and blood oozing escaped freely from the drainage tube. In the second period of twenty-four hours the urine passed from the bladder was normal in appearance and greater in quantity, and there was less from the wound. On the third day there was again just a trace of blood in the urine from the bladder. There is unfortunately no note as to when the urine ceased to flow from the drainage tube and when this was removed, but the notes say that on the twenty-second day after the operation the wound was soundly healed, and he was discharged a few days later. In the following year he had attacks of pain in the *right* renal or ureteral region, but I never heard of any recurrence of the pain on the left side.

CASE II.

H. P., aged 48, was sent to me by Dr. Boyce of Wotton-under-Edge in September, 1906, with symptoms of renal colic. The first attack, which had occurred two months before, lasted thirty-six hours. The pain had been in the left loin, extending into the left groin and testes, and the testes had been retracted. He vomited frequently during the attack when the pain was severe. Hypodermic injections of morphine were required to relieve the pain. He said his urine had been black "with altered blood." A month later he had a second attack of the same nature, and morphine was again required. In the fortnight following the second attack there were several slight attacks of the same kind. In the two severe attacks there had been frequency of micturition. Dr. Boyce wrote that "he had passed some blood with the urine once or twice." The patient said that before the onset of the pain in the attacks he had a "bearing-down feeling" in the penis and rectum, and that after the second severe attack, during an act of micturition the urine stopped and then went on again but no stone was passed. For the last fortnight he had been free from discomfort of any kind, though he had been riding in a jolting carriage. He never had had any pain with micturition. This history was very suggestive of renal calculus; almost every symptom was present, and I did not doubt that he had either a stone lodged in the kidney or ureter, or that he had passed one. But that was the question—had he now passed it? He had been free from all discomfort for a fortnight. There had been only two very severe attacks, and the whole period during which he had had the attacks was within two months. I examined his urine on many occasions and it was always normal. There was no renal or ureteral tenderness or rigidity. A skiagram failed to give any shadow of a stone.

After keeping him under observation in the ward for some time I sent him home, with instructions that if the attacks persisted he was to come in again, for then, I told him, I should feel sure the stone was still there. But because further observation was necessary to confirm my suspicions and I did not then operate on him he seems to have made up his mind that he had no stone; and although the attacks persisted, and some were very severe, I saw nothing of him again until June, 1909—three years later—when the severity of his attacks drove him to seek relief. The history he then gave was that he had had many attacks since his previous admission, but had once gone almost, if not quite, as long as a year without a severe one. He had an almost constant pain in the left loin, and this was increased if he happened to slip or when doing laborious work, and sometimes even rising from the sitting position would bring on a sharp pain there. During the few months before his readmission there had been several severe attacks needing hypodermic injections of morphine and accompanied by vomiting. The pain was always through the left loin, shooting into both testes and into the penis. He said that sometimes after an attack the urine had been of the colour of porter, and he had sometimes passed a little slime with streaks of blood from the urethra after the attack. At the commencement of the attack micturition had been very frequent—every ten or fifteen minutes; but when the pain got severe, although there was a persistent desire to micturate, no urine passed, and then as the attack passed off a little urine began to come at frequent intervals. This was his description of what happened. I presume that when the attack was at its height either the bladder was in a state of persistent contraction or the intervals between the contractions were so short that hardly any urine had time to collect. In the intervals between the attacks there was no frequency of micturition or pain with the act—nothing, in fact, to suggest that any stone had passed into the bladder.

His urine was a pale straw colour, quite clear, 1012, with a slight cloud of albumen. He had a muscular abdominal wall, with a fair thickness of fat in it, so that it was not easy by palpation to reach the contents. There was very slight tenderness on pressure over the left lumbar region in front, but on jarring the loin behind he had a sharp pain for a moment. There was no tenderness over the course of the ureter, but, as I have already stated, the condition of the abdominal wall was not favourable to palpation, and nothing abnormal was felt at the lower end of the ureter per rectum.

On the night of July 1st (a few days after admission) he had a severe attack of pain in the left loin, and when I saw his urine next day there were two minute clots of blood in it. As I should certainly have operated even if the skiagram showed no stone, I did not have one taken.

Operation.

The persistence of the attacks in the one loin made me feel almost sure there was a stone in the kidney or ureter, and I explored the kidney on July 2nd by the usual loin incision, 4 or 5 in. in length. The kidney shelled out of the perinephric fat with unusual ease; it could not be brought out on to the loin, but could be brought fairly well down into the wound. An incision was then made in the outer border of the kidney and a finger passed thr ugh it into the interior of the organ. It entered a small smooth cavity, which felt like a slightly enlarged pelvis. A smaller cavity leading out of it in

a downwards direction could also be felt. The interior of the kidney was then sounded with a long probe. No stone was discovered either by the finger or probe. It was not found possible to pass the ureteral bougie from the interior of the kidney down the ureter. The incision in the cortex of the kidney was closed with No. 1 twenty-day Van Horne's catgut sutures. I then explored what seemed to me the whole course of the ureter as it lay behind the peritoneum with my fingers, but felt no stone. I then made a minute opening (about ¼ in. long) in the upper end of the ureter, and through this I passed the ureteral bougie in a downward direction. It was obstructed near the lower end, and the point of the bougie could be felt to grate against something at the obstruction. It is interesting that the sensation of rough contact was conveyed to the fingers through such a length of flexible bougie. I then passed my fingers along the course of the bougie, and, now guided by it, I readily felt a small stone in the ureter at the point of obstruction. This seemed to be only an inch or two from the bladder. I tried to work it upwards but could not move it. I therefore carried my original incision as far as the outer border of the rectus, obliquely forwards and downwards, until it was 10 inches long. Even then it was extremely difficult to reach the stone. It seemed to lie under the bladder, and the peritoneum was pressed down on it by the weight of the intestines. I think it might have been a help at this stage to have adopted the Trendelenburg position, but there was the complication of the air cushion under the right loin, which it might have been difficult to reinsert during the later stage of the operation (closure of upper ureteral wound) if removed. I cut through the ureteral wall on to the stone and extracted it with a pair of sinus forceps. It was only ⅜ by ⅜ in. in size, but very angular. It came out in one comparatively large and two very small fragments. After its removal I could easily pass the ureteral bougie from the upper opening in the ureter, past the opening though which the stone had been removed, on into the bladder. I could not reach the incision in the ureter through which the stone had been removed sufficiently to suture it, but I closed the upper minute opening with one deep very fine catgut stitch, and another of very fine silk through the outer wall. The divided muscles of the abdominal wall were all sutured together with No. 1 twenty-day Van Horne's catgut. The end of a long rubber drainage tube was placed against the unsutured opening in the ureter, and the other end brought out of the loin wound.

After-History.

During the first twenty-four hours after the operation there was only a slight brown tinge in the urine, but there was a free discharge of deeply blood-stained fluid from the wound; in the second period of twenty-four hours urine practically ceased flowing from the loin drainage tube, and he passed several pints. The drainage tube was removed on the fifth day, as there was then only a slight stain on the dressing and no suppuration. I kept him in bed three weeks, and from the time he got up he wore a strong well-fitting belt. But, in spite of this and careful suturing of the muscles, a hernia has formed in the scar. He has got much stouter, and probably there has been a considerable increase of intra-abdominal fat, and this has helped to cause the bulging in the scar. He has had (January, 1910) no return of his pain.

CASE III.

T. M., male, aged 29, was sent to me by Dr. James Young, and was first seen by me on July 3rd, 1907. Two years before that date he began to suffer from severe attacks of pain in the left loin, and at the period at which I first saw him they had occurred almost every week. The pain started in the left loin behind, and extended round to the outer border of the rectus about the same level, and then down the abdominal wall into the testes, and the testes became retracted. Sometimes the pain ceased in the loin but remained in the other situations. These attacks lasted about twelve hours. Sometimes there was vomiting, if not there was nausea. During these two years he had several times what he considered to be haematuria, but it was not specially associated with these severe attacks of pain. There was frequency of micturition, which was very marked on some days, but it also was not specially associated with the severe attacks of pain. Sometimes with an attack, sometimes without, he had rectal tenesmus, passing little bits of hard motion. After the first attack he had great pain at the end of the penis in passing urine for twenty-four hours, and then, when micturating and defaecating at the same time, the pain and obstruction suddenly ceased. He did not hear anything rattle, as if he had passed a stone, but the conditions were not favourable to any sound being produced if one had fallen. Jolting caused severe pain. He was a tram driver, and he dreaded going over any junction on the tram lines, as the jolting of his car brought on severe pain.

He was an in-patient at another provincial hospital two years before I saw him. A skiagram was then taken but no operation was proposed. This was six months after the first attack. I could not make out any tenderness in the renal region either on pressure or percussion. The urine was normal. A skiagram of the kidney and upper end of the ureter was negative.

Operation.

On July 9th I explored the kidney by the usual loin incision. The kidney appeared healthy, and no stone was found in it, on exploration of the interior by the finger passed through an incision in the cortex. The pelvis did not appear dilated. Later on in the operation the interior of the kidney was explored by a sound passed up through an incision in the ureter, with negative result. I could easily feel a stone lying in the ureter 2 in. below the kidney. The ureter was much thickened both above and below the stone, especially below it and for the extent of an inch. I cut into the thickened ureter and removed the stone, which was ½ in. long and ¼ in. broad. It was very rough and somewhat irregular, so that, although it fitted tightly, yet probably urine could flow by it without any great difficulty. After the removal of the stone I could pass a bougie into the bladder. I united the incision in the ureter with a few fine catgut sutures through the deep wall and a few very fine silk ones through the outer. I passed a rubber drainage tube down to the sutured ureter, and closed the incision through the muscles of the loin with No. 1 twenty-day catgut.

After-History.

There was a slight brown tinge in the urine passed first after the operation. No urine escaped from the wound. The drainage tube was removed on the fourth day after operation, and the wound healed without any discharge. I saw him last year—that is, two years after the operation—and he was then very well and busy at work on the trams.

CASE IV.

W. S., male, aged 24, was sent to me in January, 1904, by Dr. Aubrey, who was then in practice at Bridgwater. He had begun to suffer from attacks of pain in the right loin two years before; at first they occurred every month or so, but during the previous six months they had occurred every week or two. The pain was always in the back in the region of the right kidney, extending through to the front, but not shooting into the groin or thigh, though he sometimes got retraction of both testes during an attack. He often felt sick, and now and then vomited during an attack, and there was moderate frequency of micturition while the attack lasted. He had never noticed anything like haematuria. Dr. Aubrey had seen him in several attacks, and had never found blood in the urine after them.

He had one attack after admission. It lasted about twenty-four hours. The pain was in the right renal region, and it did not extend in any direction. He felt sick, but there was no actual vomiting. The urine passed at the end of the attack only contained a light flocculent precipitate. It showed no red corpuscles under the microscope, but numerous uric acid crystals were present.

At times, when he was free from any attack of pain, there was some tenderness on pressure over the right kidney, and on sharp percussion of the loin, though not on the other side. There was no swelling or tenderness along the course of the ureter, either on palpation through the abdominal wall or per rectum. He was not fat, but was very muscular. No blood was ever detected in the urine.

Several skiagrams of the kidney and the portion of the ureter in which a stone was eventually found were taken, with negative results.

Operation.

On February 5th I explored the kidney by the usual lumbar incision, which, when I found the stone in the ureter, I enlarged forwards as far as the anterior superior spine. I at once felt a stone lying in the ureter several inches below the level of the kidney, about that of the pelvic brim. It could not be pushed up the ureter before I cut down and removed it. It broke up in removal, but I estimated that it was one-third of an inch in diameter, It was soft and irregular, and apparently composed of uric acid. It was so firmly fixed in the ureter that it was surprising that the urine had flowed by the side. The ureter seemed thickened above the stone. After its removal I passed a bougie down into the bladder, and then closed the incision in the ureter with fine catgut sutures through the deep layer and fine silk through the outer layers. I then explored the interior of the pelvis of the kidney through an incision in the renal cortex. I found the pelvis somewhat dilated, but no further stones. This incision through the renal cortex was closed with three catgut sutures. A drainage tube was placed against the sutured ureter and kidney, and the muscles of the loin were sewn together with catgut.

After-History.

The urine had to be drawn off during the first forty-eight hours. This was probably simply due to the patient's inability to pass urine lying on his back. The urine each time contained a considerable quantity of blood, and blood-stained urine was also present in the dressing within the first twenty-four hours. After this the urine remained free from blood until the eighth day, and there was no further discharge from the loin wound, the drainage tube being removed on the eleventh day. On the eighth day he had an attack of pain in the region of the kidney which had been operated on, and haematuria set in. The red colour of the urine lasted for more than a week, but the urine for part of this time was probably simply coloured with blood clot which had been lying in the bladder, as later on such clot was washed out in a partially decolorized condition. The renal pain did not continue after the 13th, but recurred a month later, and was associated with tenderness over the course of the ureter, and with a rise of temperature. There was also some temporary rise of temperature when the haematuria was present. The retention of clots in the bladder was followed by cystitis, but he was well enough to go to the convalescent home at the beginning of April, about two months from the operation. It is difficult to say what was the cause of the renal pain and haematuria which set in on the eighth day. I am inclined to

think that some secondary haemorrhage may have occurred from a vessel in the kidney divided in the incision made for its exploration, but haemorrhage from such a cause is very rare. That the outer part of the wound in the cortex had closed is shown by the absence of discharge of blood from the loin wound, as the drainage tube was still in at the time of the onset of the haematuria. It may possibly have been secondary haemorrhage from some vessel near the pelvis of the kidney. The recurrent pain, and the tenderness along the ureter, may have been due to the passage of old clots retained within the pelvis of the kidney. There may have been some pyelitis also set up by the presence of retained clot, and this would account for the pyrexia which was present.

These four cases seem to me to illustrate some interesting points connected with stone in the ureter. In none of the cases, so far as we were guided by the symptoms, could we have felt at all sure that the stone (if present at all) was in the ureter rather than the kidney. The position of the pain in some suggested the renal seat of the stone rather than the ureteral. Only in one of the four cases was the pain in the iliac region rather than the loin, and in this case, although the pain began in the iliac fossa, it extended up into the loin. Pain, when the stone is in the kidney, may be most marked over the ureter, so that pain in the course of the ureter rather than the renal region does not prove that if a stone is present it is in the ureter rather than the kidney. It may be suggested that a stone was also present in the kidney in these cases, but was not discovered at the operation. But in three of the cases the interior of the kidney was explored with the finger passed through an incision in the cortex, and in the fourth case the interior of the kidney was sounded through an opening in the ureter. Moreover, the symptoms subsided after removal of the ureteral stones.

Why should sharp percussion of the loin cause pain when the stone is firmly fixed in the ureter, well below the kidney? Yet it did so in several of these cases. In trying this test, I always compare the effect of sharp percussion of one side with the other, and in these cases I found it only on the side in which the stone was in the ureter. It is supposed to give rise to pain by causing a sudden movement of the stone in the interior of the sensitive kidney. I do not think that in any of these cases it caused any movement of the stone in the ureter. At the time of operation the stone was so fixed that I could not move it. It is remarkable that in one of the cases jolting in a car should have caused such marked pain, when the stone was so firmly impacted in the ureter. As I have already told you, the patient was a tram driver, and he dreaded crossing a tram junction on account of the jolting of the car, as it gave him so much pain.

Only in one case was dilatation of the renal pelvis at all marked, and even in this case it was not great. Although the stones were so tightly fixed in the ureter, and were of a size to block the lumen, they had not a great tendency to produce hydronephrosis. Although they fitted the ureter so tightly, I think they were not smooth enough to prevent urine passing by the side. If they had been round stones the lumen would have been blocked by them. Of course it is not possible to say how long the stones had been so tightly impacted in the ureter. All I can say is that in these four cases I found at operation a stone tightly fixed in the ureter, that symptoms such as were present at the time of operation had been present for at least several months, and that in only one was there any distinct dilatation of the renal pelvis observed. It is interesting how small a channel may suffice to prevent any marked backward dilatation.

As there was no hydronephrosis, at any rate in three out of the four cases, it is interesting to consider what the severe attacks of pain were due to. In some of the cases they were present up to within a very short time of operation, so that there is reason to believe that whatever was found at the operation was the cause. In all cases it ceased after the removal of the stone from the ureter. I think it was not due to the passage of the stone along the ureter, for in every one of the four cases the stone was absolutely fixed there and could not be moved, even backwards. It may be said that it had been moving downwards during the attack, and had by the time of the operation become fixed in the ureter. But it would be very remarkable if I happened to operate on all four cases just at the time when the stone had become fixed. Of course it is impossible to say when it became fixed; but it is probable that the severe attacks of pain were associated with it in its fixed condition. And the great thickening of the ureter, associated with the impaction of the stone in one case, was evidence that the stone had been fixed in the ureter for some considerable time, yet at the time I operated the patient was getting severe attacks of pain almost every week. The great thickening of the ureter below the seat of impaction of the stone would, in this case, have prevented its onward passage. It seems to me that almost certainly from time to time the ureter above the stone contracted very firmly, became spasmodically contracted, and tried, though ineffectually, to force it on, and that the pain was due to this spasmodic contraction of the ureter. The pain of colic is probably usually due more to violent contraction of the muscle of the duct than to the passage of the stone over the mucous membrane. Why this contraction should set in at intervals, when the stone is lying impacted in the ureter, we cannot tell, for we do not understand what starts the contraction in any particular case, seeing that the stone is always there, and that it is firmly fixed. In two of the cases there was a history of haematuria, but in one of these, after a severe attack of pain in the renal region, after the patient was admitted to the hospital, I found two small clots in the urine passed just after the attack. Next day I found a stone firmly fixed in the ureter, and none in the kidney. Where did the blood come from? If the stone had moved down the ureter the day before, it ought to have moved up again with the pressure of my finger and thumb, but it was firmly fixed. The minute clots were not due, then, to the passage of the stone along the ureter. Their presence suggests the view that the contraction of the ureter, although it could not move the stone, yet by pressure of the mucous membrane on it had damaged the mucous membrane enough to cause slight haemorrhage.

I have already mentioned that there was nothing in the pain, in at any rate three of these cases, which could have suggested that there was a stone in the ureter rather than in the kidney. Neither was there any tenderness or swelling along the course of the ureter, as felt through the abdominal wall, or at its lower end, as felt per rectum, in any of the cases (the stone was not low enough to be felt per rectum). Even in the case in which the skiagram showed a stone in the ureter we failed to make out any tenderness along its course. This may be because the stone was in the pelvis, but in one of the cases it was about the pelvic brim, and there was no tenderness in this case. The stones were probably not large enough to cause any swelling which could be felt through the abdominal wall.

Some of these cases show that we should be unwise to rely on the negative result of a skiagram. Of course a skiagram may show the kidney region and not take in the whole course of the ureter. Unless the plate is an unusually large one, it is always well to take one of the kidney region and one of the lower part of the ureter. But even when the part of the ureter which contains the stone is included within the skiagram it may not show the stone. In two of these cases a skiagram was taken which did not show the stone, though the portion of the ureter containing the stone was included in the skiagram. If I had acted on the skiagraphic evidence, I should have failed to relieve these patients. I have removed small stones from the kidney also which did not show in a skiagram. At the present time, with uncertainty as to the reliability of a skiagram, we cannot act on its negative evidence alone. Nor can we with certainty if the skiagram appears to show a stone in the course of the ureter. A skiagraphic shadow in the course of the ureter may be produced by calcareous tubercle within the peritoneal cavity, or in some retroperitoneal lymphatic gland, or even by an atheromatous patch in one of the large arteries. Last summer I removed a stone from the kidney, and at first I thought I could feel an angular stone in the ureter on passing my finger downwards along the course of the ureter. It turned out to be a calcareous mass in the overlying peritoneum, but it certainly would have suggested in the skiagram a stone in the ureter. Mr. Hurry Fenwick has differentiated such extraureteral bodies by passing a ureteral bougie up the ureter from the bladder, when if the body which causes the shadow is outside the ureter there ought to be no obstruction to the passage

of the bougie, and it will probably be found that the shadow is really not exactly in the line of the ureter, as can be shown by taking a skiagram with a fine metal stylet within the bougie.

In one of these cases there was very marked thickening of the ureter for an inch below the point at which the stone was impacted. This is rather remarkable. One would not be surprised at hypertrophy and dilatation of the tube above, together with a certain amount of inflammatory thickening at the seat of impaction; but why the ureter should be so thickened below does not seem clear. It is possible that at first the stone had a range of movement somewhat further down the ureter than was found at the operation, and that chronic inflammatory thickening set up by the irritation eventually narrowed the lumen both above and below, so as to fix the stone in the centre of the markedly indurated area.

I now propose to say a few words about the operative treatment of these cases. In all the cases the kidney was explored at the same time that the stone was removed from the ureter, in three cases by an incision through the cortex, and in one by sounding the interior through an opening in the ureter. It seems to me that this should always be done. If a stone has passed down into the ureter, it is quite likely there may be another in the kidney. So far as the symptoms can guide us, as I have already pointed out, we cannot say that they are due to stone in the kidney or ureter, and therefore it is as necessary to explore the kidney, even if the seat of pain is over the ureter, as it is to explore the ureter if the seat of pain is over the kidney. I think if a skiagram showed a stone in the ureter, and failed to show one in the kidney, it is very unlikely one would be found there, but I should explore.

My four cases seem to me to show that we cannot expect to be able to push the stone into the upper part of the ureter, though we should always try, and we must be prepared to cut down on it near the lower end of the ureter, where it is certainly very difficult to reach it, even though we carry our incision as far forwards as the outer border of the rectus. I think when the stone is very low down, near the bladder, the Trendelenburg position might help us, as it would be easier to draw the peritoneum aside if the pelvis were emptied of small intestine, but it would be difficult to turn a patient from the loin position which we employ for the renal part of the operation, into the Trendelenburg one in the middle of an operation, with aseptic towels covering the area of operation.

In three of the cases—in all in which I could—I sutured the ureter, using very fine catgut (as fine as fine silk, and kept in alcohol) for the mucous membrane, or, when it was not possible to define the mucous membrane, for the inner part of the tube, and very fine (intestinal) silk for the outer layer. It is interesting to note that in the one case in which I did not suture the ureter it healed at once, and urine ceased to flow through the drainage tube at the end of twenty-four hours. This is encouraging when we cannot suture the ureter, but the good result in this case should not make us abstain from suture when we can use it. It is most important not to contract the ureteral lumen when we suture. If there is a considerable risk of this—if we cannot see the interior of the ureter clearly—I think it would be better not to suture at all. We should pass a bougie down the ureter whilst we are inserting the stitches, and withdraw it before tying the upper one or two, so as to make sure we do not take up too much of the ureteral wall in the suture and in this way encroach on the lumen.

I think after these operations for removal of stone from the ureter, in which the stone is low down in the pelvis and a very long incision may be required, it is very necessary to suture the divided muscles very thoroughly, and with some substance which will last for at least a fortnight, and I always supply such patients with a well-fitting belt, which is likely to adequately support the long line of scar. Even with these precautions a hernia may form in the scar, as it did in one of my cases.

I have considered very carefully the best position for drainage in these cases. This is very important, as, even if the ureter is sutured, some urine may escape. I think the best position is on the side of the operation, with the pelvis tilted up on pillows. This will not suffice to drain the pelvic portion of the ureter, the true pelvis is such a deep cup-like space, the drainage tube dips over the pelvic brim into it, and cannot drain it by gravity. But the pressure of the intraperitoneal contents will probably press any fluid in the true pelvis along the drainage tube, and the moderate tilting of the pelvis will help in its escape.

I do not propose in this lecture to discuss the question as to what route should be employed to reach the ureter. In three out of these four cases the stone, though found in the ureter, might, from the symptoms, have been in the kidney, and therefore the transperitoneal route could not have been considered. In the case in which we found evidence of ureteral stone by the skiagram the stone certainly might have been removed by the intraperitoneal route and with less difficulty; but although it has been shown by the published records of a few cases that the stone may be removed through the peritoneal cavity without any disaster, yet, I must say, without any special difficulty as to reaching the stone by an extraperitoneal method—whether the one I adopted or the sacral operation—I should hesitate to employ it, for it seems to me there must be some risk of infecting the peritoneum either at the time of operation or from leakage after. Because we safely evacuate offensive pus through the peritoneum seems to me no reason why we should deliberately cut into the ureter by this route. The pus is already there, and there is no other way of evacuating it. Even in cases in which we have to implant a ureter divided in some intra-abdominal operation into the bladder, we have no choice in the matter. If we had to plan such an implantation, we should, I think, prefer to do it, if it were possible, by an extraperitoneal route. Because the peritoneum is more tolerant than it was thought to be in the past, we must not be rash in exposing it to infection. We cannot be at all sure the urine which may escape when the ureter is incised, or leaks into the peritoneal cavity afterwards, is aseptic. With a block in the ureter it is very likely not to be so.

I have discussed this question of the advisability of operating by the intraperitoneal route because, although condemned by Sir Henry Morris and other surgeons, it has lately been advocated as the operation of choice.

An Address

ON

SOME IDIOPATHIC DISEASES OF THE SKIN WHICH MAY SIMULATE SYPHILIS.*

BY

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THE early syphilographers of the fifteenth and sixteenth centuries, when the great epidemic of syphilis spread over Europe, seem to have been well acquainted with the fact that the eruptions of that disease often resemble those of other maladies. Special attention was called to the matter by the Italian writers John of Vigo and Massa (1536), and again, two centuries later (1735), by Astruc. This tendency of syphilitic cutaneous manifestations to simulate idiopathic dermatoses has always been, and indeed still is, a source of some confusion—not infrequently, even at the present time, leading to error in diagnosis. Our great authority, Sir Jonathan Hutchinson, has observed that "there is in fact no single skin disease of constitutional origin which may not be imitated very closely by an eruption which is due to syphilis"; but, as he goes on to say, "the imitation is rarely absolutely correct . . . there is very frequently a mixing of the types of two or more in one."

In point of fact, the practised eye, as Bateman long ago said, can usually recognize a difference between the ordinary diseases of the skin and syphilis; and by carefully noting the form, colour, situation, course, etc., of the eruption, the skilled observer will, in the large majority of instances, very soon feel sure whether he has to do with a case of syphilis or not; and he will often be able to form a definite opinion, even without reference to the other

*Delivered before the Ealing Division of the British Medical Association.

symptoms of the disease, and however much the patient may be ignorant of, or protest against, possible infection.

Cases, however, sometimes present themselves which, from an examination of the skin lesions alone, are not so readily placed in their proper position; and even with the help of all the objective and subjective information that we can get, the most experienced specialists are occasionally baffled, as the diverse opinions expressed about a case from time to time at the various dermatological or other medical societies will abundantly show. Doubt, in reference to the diagnosis of a case, is sometimes, indeed, quite excusable.

It is true that many cases simply, as it were, "shout" at you: the diagnosis can be made in a second: the form, colour, situation, etc., of the skin lesions may be so typical that your mind is made up at once. It is not always wise, however, to "rush" a diagnosis in this fashion, for upon going more thoroughly into the case, you may have to withdraw your hurried impression, even though at first sight there seemed to be no possibility of a second opinion. In considering, indeed, the true nature of a cutaneous affection—in determining whether it be really a syphilide—a great many points have generally to be investigated before coming to an absolutely sure conclusion.

I propose to refer to certain diseases of the skin which occasionally may give one the impression of being syphilitic, and to describe shortly a few cases in illustration, which have been under my care.

A great many other dermatoses—seborrhoeic eczema, lupus, leprosy, bromide eruptions, variola, and a host more—might be included in the list as being sometimes mistakable for syphilis; but I shall now only speak of certain cases of psoriasis, pityriasis rosea, impetigo, ecthyma, rodent ulcer, mycosis fungoides, pemphigus vegetans and dermatitis herpetiformis.

PSORIASIS.

As a student I was taught that when scaly patches occurred on the extensor surfaces of the limbs the affection was "simple psoriasis," and that when they occurred on the flexor surfaces, it was "syphilitic psoriasis"; but when I subsequently began the serious study of diseases of the skin I soon had to give up that idea. Although the term "syphilitic psoriasis" is still loosely used for the scaly macules and papules of the common early syphilitic exanthem, and also for the scaly syphilide of the palmar and plantar surfaces, in point of fact there are in my experience very few syphilitic cutaneous manifestations which are really closely like, or easily mistaken for true psoriasis. I admit that an error in diagnosis is excusable in certain cases of the palmar and plantar syphilide, and even occasionally in the case of a scaly nodular syphilide on the elbows and knees; but on the limbs and body I have seen comparatively few in which the similitude was so great as to lead to any doubt as to the diagnosis.

In recently looking over some notes of a series of 829 hospital cases of early and late syphilis at the West London and Blackfriars Hospitals, I have not found more than about half a dozen in which the eruption is described as essentially resembling true psoriasis.

One of the West London cases, a woman aged 33, exhibited psoriatiform patches on the elbows and knees, and extensively on the backs of the hands. There were typical lesions of syphilis elsewhere, and under small doses of potassium iodide, the psoriatiform, as well as the other manifestations, soon disappeared.

I have perhaps more frequently seen a psoriatiform syphilide appearing late in life, especially on the legs, in patients who must have been syphilized many years previously. There are usually a very few large patches, of livid tint and serpiginous outline, and with less hypertrophy of the horny layers than in the true psoriasis. These cases, too, are more amenable to treatment with potassium iodide than true psoriasis.

PITYRIASIS ROSEA.

Although attention was called to this disease fifty years ago by Gilbert in Paris, it has only been recognized in this country since 1884, when Dr. Colcott Fox wrote a paper on the subject. Although not very common, it is sufficiently frequent to have been seen probably by every medical practitioner. In one of my statistical series at the Blackfriars Hospital it occurred twenty times in 2,175 skin cases, but I believe that I see a proportionately larger number at the West London Hospital, and still more, perhaps, in private. In my experience no idiopathic disease of the skin is more frequently mistaken for an early syphilitic rash. The slightly pigmented spots with fine or furfuraceous desquamation—often exhibiting a roseate bordering ring, rapidly making their appearance on the chest, neck, shoulders, trunk, and limbs, generally spreading from above downwards and sometimes accompanied with but little subjective sensations—are often at first sight very suggestive of syphilis in the early "secondary" stage. But there is no accompanying adenitis, and no throat trouble, or other signs of syphilis, although the patient may have been otherwise "out of sorts," or have had some digestive "upset." There is usually, too, a history of one large macule having made its appearance some considerable time before the outburst of the others. It is really of importance for a practitioner to recognize this affection, for if he mistakes it for syphilis disagreeable complications may ensue. The following case is, in this regard, instructive. A particular friend of mine in large practice in the West of London called me in consultation over the case of a lady in the theatrical profession whom he had been treating with mercury for a rash which certainly had a very strong resemblance to an early specific exanthem. The husband, who knew a little about medicine, discovered what his wife was taking for her eruption, and was greatly perturbed. It required considerable diplomacy on my part to calm down the indignant spouse, and convince him on the one hand that his wife had nothing very serious or anything infectious the matter with her, and at the same time to exonerate my friend the doctor.

IMPETIGO.

It may seem rather far-fetched to suggest that the common and well-known impetigo or impetiginous eczema could be easily confounded with syphilis, but I cannot forget a case which once took me in. A young woman came to the hospital with a rapidly developing and copious yellowish crusted eruption upon the scalp, ears, forehead, and neck, together with swollen glands about the neck, as was only to be expected. After a few days the usual treatment for impetigo had had no effect, the eruption had increased, one of the glands had become enormously enlarged, and there was a rise of temperature. She was so ill that I took her, as an in-patient, into the West London Hospital for operation. Until then I never suspected syphilis, but after a few days in the hospital a typical maculo-papular eruption made its appearance with other phenomena of syphilis. We could never get a definite history, but she had evidently acquired a big dose of the disease, for in spite of the usual treatment, gummatous and other late lesions were developed within a very few months.

ECTHYMA.

I have had several cases of a staphylococcic infection causing deep-seated inflammation and ulceration of the skin. These ulcers may be mere erosions, or they may be sharply cut and punched out, coalescing and spreading in a serpiginous manner. They are, indeed, extremely like syphilitic ulcers. A case of the kind is now attending my out-patient department at the West London Hospital—a little girl of 18 months with a number of punched out ulcers in both groins and about the vulva.

There is nearly always in these cases evidence of impetigo elsewhere, and another indication that they are not syphilitic is the fact that they readily heal up with antiseptic lotions and ammoniated mercury ointment, without further specific treatment.

RODENT ULCER.

The patient I show exhibits an ulceration on the cheek and lower eyelid which might easily, even at this stage, remind one of the specific ulceration. A few weeks ago the likeness was even stronger, for the ulcer was then deep and cavernous, and the edge at one side sharply cut and of irregular outline. It is now healing under the influence of radium, which is being kindly used for her by Dr. Mackenzie Davidson. When she first came to the West London Hospital in 1905 she had a typical rodent ulcer, which had been slowly developing for nine years. Under *x* rays it disappeared satisfactorily, but after an interval of some months it again made its appearance.

This time it did not respond to the rays, and zinc ionization likewise proved futile. It was obviously increasing, and it became so large that I suggested wide excision and a subsequent plastic operation, with Thiersch grafting. My late lamented colleague, Mr. Keetley, however, thought it advisable to make another endeavour at cure without the knife. The result is, on the whole, encouraging.

The slow development, the hard consistence of the edge, the sites of predilection, and the absence of other specific signs in a large majority of cases sharply differentiate a typical rodent ulcer from the syphilide; but occasionally, it must be admitted, when the ulceration is extensive, a mistake in diagnosis is possible. It must be remembered, too, that a rodent ulcer may, though rarely, be developed on the site of a syphilitic scar.

MYCOSIS FUNGOIDES.

The ulcerating, fungating lesions of this terrible malady may strongly resemble the gummatous ulcers of syphilis, and if the patient happens to give a history, or show signs of former venereal disease, the diagnosis is by no means easy. A case of the kind is now at the West London Hospital. The man presented himself in November last with an extensive pruritic, inflamed, and scaly eruption all over the head, body, and limbs, with several rupia-like lesions, and large ulcers on the back, abdomen, legs, and other parts, and a very large swelling in one groin. There were several scars, apparently syphilitic, on the legs, and he gave a history of having had a sore on the penis and subsequent symptoms some twenty-two years ago, and a wart on his penis seven years ago. At first we thought it was syphilis, and he was put upon specific treatment. I have since come to the conclusion that we have to do with a very severe case of mycosis fungoides.

PEMPHIGUS VEGETANS.

I am indebted to Dr. Timmins for having the opportunity of seeing and of treating this patient, who has kindly come here for you to see. The dried-up, darkly-crusted lesions which she exhibits on her shoulders and back, arms, abdomen and legs, are very different from what they were; but, even in their present state, a passing idea of specific disease might be possible. Her lips and the mucous membrane of the tongue, mouth, and pharynx, and even the larynx, were, some weeks ago, profoundly affected, and she was really in a very serious condition. The blebs of pemphigus which arose on the inflamed areas soon broke, and granulations were developed in their place. Under arsenic she has improved immensely, and she was able to leave the hospital as an in-patient some weeks ago. Microscopic examination and cultivations failed to show micro-organisms in her case, and the Wassermann reaction also proved negative.

DERMATITIS HERPETIFORMIS.

Cases of this disease occasionally call to mind syphilis; and in a patient with severe dermatitis herpetiformis who has been under my observation for some years, I am not at all sure that a syphilitic taint is not at the bottom of it. I think it is rather an example of a syphilitic affection simulating another disease than the converse; and perhaps it hardly comes under the same category with the others to which I have alluded. The patient, a woman aged 30, was admitted to the West London Hospital in June, 1900, with a severe and extensive pustular eruption particularly well developed about the groins, inner part of the thighs, pubis and lower part of the abdomen, and in a less marked form in the right axilla, left side of neck, and the trunk generally. The pustules seemed to arise as small papules, soon becoming vesicular and then pustular, upon a red base. They rapidly became confluent and were very pruritic. From the fact that she had recently had an infant, and from the impetiginous appearance of the eruption in the neighbourhood of the groins and pubis, I was at first inclined to regard it as a case of the rare impetigo gestationis. She left the hospital in about five weeks, somewhat improved, and went to the infirmary for a few weeks. She got quite well and remained so for three years, when she again presented herself at the West London Hospital, with a still more extensive, but more bullous, eruption, which benefited little under treatment, and she left the hospital in about two months. It appears from her statement that the affection then left her for a considerable time, but reappeared badly in 1905, and she had to go several times into the infirmary. In March, 1908, until May she was in St. George's Hospital, and afterwards again in the infirmary and at a convalescent home. She came a third time to the West London Hospital in December, 1908, and I kept her in until August, 1909. The condition now was more typical of dermatitis herpetiformis; there was marked eosinophilia, and cultures showed pure staphylococci. From time to time she had been treated with mercury, iodide, thyroid, tonics, arsenic, soamin injections, and staphylococcic and polyvalent serums, which certainly did some good. Since leaving the hospital she went again to the infirmary, where I am told she was treated with mercury, and I hear that she is now free from the eruption.

While she was under my care last year I had an opportunity of seeing her little girl, aged 9, who was born just before her first attack. The child is a typical congenital syphilitic, with well marked Hutchinsonian teeth and interstitial keratitis. The patient had also had a miscarriage some time before her complaint made its appearance. I regret that the "Wassermann reaction" was not tried in her case, nor any attempt to find the spirochaete. With the assistance of these measures the diagnosis would no doubt be cleared in such a case as this and in other puzzling ones of the kind.

In my opinion, no more important and useful advance in scientific medicine in recent times has been made than the serum reaction for syphilis. Unfortunately it is a process which takes time, and can only be carried out in a pathological laboratory by an expert. The same may be said of the recognition of the *Spirochaeta pallida*, which we are all now agreed is the pathogenic organism of syphilis.

RUPTURE OF THE BLADDER FOLLOWED BY GANGRENE OF THE BLADDER WALLS.

BY P. CLENNELL FENWICK, M.D.,
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THE following case is, I think, interesting as a proof of the resistant power of the peritoneum and from the fact that the patient lived so long—thirty-three days—after such a severe accident.

On April 17th, 1909, a man aged 39 was run over by a light cart when intoxicated. He was assisted to his home and sent for a doctor, who passed a catheter and drew off a large quantity of clear urine. The patient complained of his back and legs, but had no other symptoms. Next morning the catheter withdrew bloody urine, and he was sent into hospital.

On admission the temperature was 99.2° F., pulse 80, and the patient then localized his pain in the right hip and right leg. A catheter was passed with some difficulty, and bloody urine was withdrawn. He remained in hospital thirty-six hours, during which time the catheter was passed at intervals, the urine being always bloody. He then entered a private hospital.

On April 26th—eight days after the accident—he was seen by Dr. Brittin. He was passing exceedingly foul urine. Dr. Brittin advised immediate operation, as the diagnosis of fracture of the pelvis and urinary extravasation was clear.

On May 2nd—fifteen days after the accident—I saw the case in consultation. The temperature was 102° F., pulse 120; the face was sunken and anxious; the abdomen presented the exact appearance of a five months pregnancy, a firm ovoid mass rising from the pelvis as high as the umbilicus. The mass was dull on percussion, tender, and very well defined. The abdomen above this was soft and resonant and quite painless. Jarring of the right foot caused great pain, which was referred to the right hip and right groin. I washed out the bladder after withdrawing a quantity of extraordinarily foul urine loaded with pus. We advised operation, but this was refused.

The patient's condition became worse, and on May 7th a fluctuating mass appeared in each groin, and he consented to operation. I opened the mass in the right groin and liberated several pints of fetid pus. On passing the finger down into the cavity I felt the horizontal ramus of the pubis fractured and projected nearly at right angles into the cavity. On incising the left side a very large quantity of pus escaped, and the finger passed into a large cavity, of which the boundaries appeared to be the pelvic bones.

The temperature fell to normal, and the patient's condition improved, but he passed all the urine through the left wound; only twice were a few drops of pus and blood passed by the urethra. He died on May 20th.

A *post-mortem* examination was made a few hours after death by Dr. Inglis and myself. The right kidney was exposed by the usual oblique incision, and was quite normal. On making the similar incision on the left side a large abscess cavity was found

occupying the renal area; no trace of the kidney or ureter could be found, but a large track led from this cavity downwards into the pelvis.

On opening the abdomen a remarkable appearance was presented; the peritoneal cavity was quite normal, the peritoneum being glistening and unchanged. Between the abdominal cavity and the pelvis a thick roof of peritoneum, shiny on its upper and black on its under surface, was seen. This was the peritoneal covering of the bladder stripped upwards. The pelvis was occupied by several pints of fetid pus. No trace of the bladder could be discovered—merely a black-walled cavity bounded by the pelvic bones remaining. The urethra opened directly into this cavity. The rectum could be seen apparently uninjured. The horizontal ramus of the pubis on the right side was fractured about its middle, the ununited ends projecting into the cavity. The left ureter and kidney could not be found, but in their place an abscess cavity with black walls, and a long track joining the two cavities.

I found two handfuls of blackened slough lying at the bottom of the pelvic cavity, apparently the remnants of the bladder walls. The inflammation, after destroying the bladder, had tracked up the left ureter and destroyed the left kidney.

ON DOUBLE LOOP HERNIA (W HERNIA).

WITH REPORT OF A CASE.

BY

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WHILE a case of strangulated umbilical hernia containing two loops of bowel was reported by Benno Schmidt in 1880, the credit belongs to Lauenstein, of Hamburg, of drawing general attention to the subject of double loop herniae by reporting a case of strangulated inguinal hernia containing two loops in 1894,[1] of reporting a first series of cases in 1905,[2] and a further series in 1909,[3] while he has also performed many experiments on animals with a view to elucidating some of the difficulties met with in explaining the formation of such herniae.

Although during the last few years a number of such W herniae cases have been reported (over 30 in all), the condition is not apparently a common one, even when allowance is made for some cases which, as I am aware, have occurred, but have not been published. So far as I have been able to ascertain, all the cases reported have occurred in the inguinal region, with the exception of the umbilical case already referred to and 5 cases which occurred in the right crural region, and, further, both loops of bowel have always been strangulated. The case which came under my care, on the other hand, was one of left femoral hernia and only one loop was strangulated, and both on account of the rarity of the condition and the possibility of its peculiarities throwing light upon some of the theories regarding the formation of such herniae, I consider it worthy of record.

D. B., a man aged 66, a miner, was admitted to the Royal Infirmary, Glasgow, under my care, when acting for Mr. Paterson, on December 14th. The patient was suffering from symptoms which pointed to intestinal obstruction. Five days prior to admission the patient had a sudden attack of pain, which he referred to the umbilicus and which lasted for several hours, and on the day following he had a similar attack. During the next three days, and prior to admission, the pain was almost constant and severe. The bowels moved fairly well with enemata, but no flatus was passed, while he suffered from severe eructations of wind from the stomach. The bowels again moved at 4 a.m. on the day of admission, but still no flatus was passed, and he became sick and vomited faecal matter.

Condition on Admission.

The patient was in a generally unsatisfactory condition and distinctly shaky; the pulse was 100 and the temperature normal. The abdomen presented no distension, rigidity, or tenderness. A large tumour, however, about the size of an ostrich egg, was found projecting from the left groin, and extending from the pubes to within an inch of the anterior superior iliac spine. He seemed to attach little importance to this swelling, and did not refer his present condition to it. When questioned regarding it, he said that the tumour had been present for a very long time, probably from childhood, and that, while it had been slowly increasing in size for some years, it had become markedly larger during the last few months. The tumour was hard to the touch, immovable, not tender, and gave no impulse on coughing. It became, therefore, a question whether this tumour was a very large femoral hernia, containing strangulated bowel, or whether it was, as the history seemed to suggest, a tumour which might or might not be connected with the symptoms of strangulation. As the tumour mass was slightly tympanitic at one point, hernia appeared the more probable diagnosis, and it was decided to operate.

Operation.

A vertical incision was made over the mass through the skin and cellular tissue, exposing first one and then within it a second glistening sac. These sacs were perfectly free from one another, and, when the second was opened, a quantity of dark, blood-stained fluid poured out, while a dark solid mass presented, which still suggested the possibility of tumour. On opening up the sacs more widely, however, a loop of dark, bluish-purple, congested, and considerably distended small bowel about 1 ft. in length was exposed, and easily brought out through the wound. The portions of this strangulated loop which had been opposite the neck of the sac, together with a short portion above the constriction on either side, were found not to have suffered greatly from pressure, and then the loop, which apparently consisted of ileum, was with little difficulty returned to the abdomen. The remaining mass was still very large, and, on careful unravelling, was found to consist of two distinct portions. First, there was a large coiled mass of congested livery omentum, which, when ultimately disentangled and spread out, was found to be some 10 in. long, 6 in. broad, and fully ¼ in. thick. When in position it practically enveloped the second portion of the remaining mass, and to a less extent concealed the loop of bowel already referred to. The neck of this mass was both thin and narrow, rendering its ligature and removal very easy. Probably the size and thickness of the omental mass is accounted for by long presence in the hernial sac, with slight constant pressure at the neck causing venous congestion, and hence hypertrophy, just as is seen in the case of the mesentery of a herniated appendix of some standing.

The second portion of the mass now remained alone in the large cavity, and on introducing the finger and hooking it forward, it was seen to consist of bowel, into which the finger appeared at first sight to have penetrated. On closer inspection, however, it was found that the finger had gone into a little pocket and not into the lumen, and that the mass which now presented, and which was of the size of a large orange, was composed of bowel. The pocket into which the finger had gone was one of many with which the surface was covered, and which apparently represented positions where the original coils of which the mass was composed had not fused as they had done elsewhere. Save for these pockets, the surface was smooth and glistening, as in normal bowel, but here and there, particularly in the neighbourhood of the pockets, traces could be made out of fibrous adhesions running from one loop to another (see diagram).

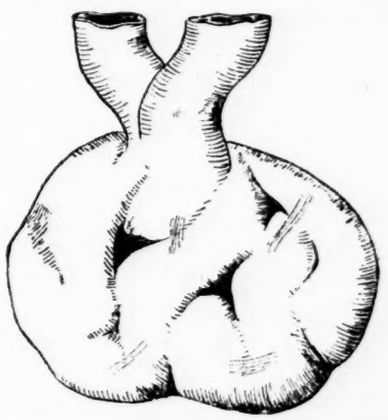

Diagram of the bowel mass which had been long present in the hernial sac, was covered by omentum, and was not strangulated.

An attempt was made to determine the portion of intestine to which this mass belonged, but proved abortive, as neither limb of the loop could be drawn through the ring sufficiently for careful inspection. Both limbs were composed of perfectly healthy but thick-walled bowel, and it was thought that an imperfect longitudinal band could be recognized running along the front of the anterior limb into the bowel mass, but the point could not be definitely decided.

As this mass was perfectly normal in colour and there was no constriction whatever at its neck, the intestinal obstruction was obviously entirely due to the first, strangulated, loop, and as the patient had never experienced trouble from the condition, it was determined to try to reduce it in mass. This proved a comparatively easy proceeding, owing to the very large size of the crural opening, which extended out from Gimbernat's ligament, over the femoral vessels, for a distance of fully 2½ in. The peritoneal sac was next freed from adhesions to within the crural ring, threaded in the ordinary manner, and drawn up behind Poupart's ligament, while the large outer sac, composed presumably of transversalis and iliac fasciae of the crural canal, but enormously enlarged and thickened, was similarly coiled and drawn up in front of the opening beneath Poupart's ligament. The wound was then stitched up.

Save for slight collapse after the operation the patient made an uninterrupted recovery, and he has been well since, regulation of the bowels occasioning no trouble.

It will be noted that the probable period of strangulation in this case was a long one—not less than five days—from which, together with the condition of the bowel as found at the operation, it may be inferred that the strangulation was not complete, but was more of the nature of obstruction of the lumen of the bowel than of marked interference with the blood supply of the affected loop. It is a question whether the loop became strangulated immediately on entering the sac, or whether it had been present for some time previous, as the history of the sac, increasing markedly in size, seems to suggest. As the loop was perfectly free in the sac, and there was not even a constricting band at the neck, I am inclined to think that the loop had become strangulated immediately on its entrance into the sac five days previously.

One theory put forward as to the formation of W herniae is that a single large loop of bowel comes down into the sac, and that subsequently the central portion of the loop slips back into the abdomen, thus forming the W. In favour of this theory is the generally very large size of such herniae, and also the fact that in many cases the connecting loop of bowel, notwithstanding its position in the abdominal cavity, is damaged. If the connecting loop be not damaged while in the sac, how is the damage to be accounted for?

So far as the case under consideration is concerned, this mode of formation is definitely negatived. The one loop had undoubtedly been constantly present in the sac for many years—indeed, enveloped with omentum as it was, reduction would have been impossible, notwithstanding the large size of the ring—while the other loop had equally certainly only been present for a short period. The entire absence of pressure symptoms upon the bowel mass loop is probably to be accounted for by this very long presence in the sac, the bowel having become thickened and easily capable of resisting any pressure upon it. The loop of ileum, on the other hand, being composed of normal thin, easily compressible bowel, was completely obstructed more or less immediately, notwithstanding the absence of any constricting band. It is unfortunate that the patient's condition, and also the impossibility of pulling down the bowel leading from and to the bowel mass prevents a statement being made as to the probable amount of bowel forming the abdominal loop. It is a curious fact that, in a number of the cases reported, this middle loop has suffered severely, even perforation having occurred in it, without the portions of bowel in the sac having suffered proportionately. Lauenstein has performed many experiments on animals with the object of finding out why this should occur, from which it appears that neither undue distension of the intermediate loop, as suggested by de Beule, nor traction on the mesentery can alone be held responsible. Probably both have an effect in diminishing the blood supply to the loop, and of lowering its vitality, thereby permitting undue bacterial action. In the case now reported, apart from its scientific interest, there was little object in bringing out the entire intervening loop, as only one herniated loop was strangulated, and the bowel above it on both sides was quite normal.

Lauenstein suggests as aids to diagnosis in cases of double loop herniae (1) the size of the hernia, which is generally right-sided, scrotal, and of long standing; (2) signs depending upon the condition of the middle loop, such as marked asymmetry of the lower half of the abdomen where the loop is much distended; furrowing of the scrotal tumour, indicating the line of separation between the two loops, which may further yield differences in percussion (for example, one full of fluid, the other of gas); effusion of fluid into the abdominal cavity. In the present case the size and long duration of the condition were the only features present of these suggested, the tumour being uniform in contour (owing probably to its thick envelopes as compared with a scrotal hernia), and the abdomen uniform and free from effusion (owing to one loop only being affected, and there being thus no affection of the middle loop).

In conclusion, it may be stated that one of some three cases of herniae containing three loops of bowel has been reported by Pringle of Glasgow,[4] and in this case one of the loops was less affected by strangulation than the others.

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A CASE OF GLUTEAL ANEURYSM.

TRANSPERITONEAL LIGATURE OF THE INTERNAL ILIAC.

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READING.

THE following case is of interest on account of the rarity of the condition and the fact that the treatment adopted involved an operation not often performed:

G. S., a farm labourer, aged 64, was admitted into the Wallingford Cottage Hospital in September last with a swelling of the right buttock.

History.

For six or seven years the patient had suffered from unilateral sciatica. The pain had been much more severe during the last two years, and for two weeks before admission had been almost insupportable. It was usually worse at night, and extended from the right buttock over the back of the thigh and calf of the leg down to the heel of the same side. On account of the pain the patient had been compelled to give up work and take to his bed. The swelling had been noticed in the buttock for about three years; it had been very slowly increasing in size during that time. Beyond the fact that the man remembered that when acting as shepherd some twenty years ago he had occasionally been butted in this region of the body by rams, there was no history of trauma, nor was there any of syphilis (though the latter fact is scarcely worth recording, since patients of his class undoubtedly often suffer from this disease in a mild form, and scarcely notice it till tertiary symptoms or nervous diseases supervene). His habits had always been temperate.

Condition on Admission.

A tense pulsating tumour was present in the right gluteal region. The pulsations were expansile, and a marked thrill could be detected at one point. Auscultation revealed a loud bruit. The centre of the swelling was situated above and a little to the outer side of the point of junction of the middle and lower thirds of a line drawn from the posterior superior iliac spine to the ischium. The tumour measured, roughly, 8 in. from above downwards, and 6 in. from side to side; it extended down to the gluteal fold, which was almost obliterated, and, apparently, deeply into the pelvis. The muscle over it was thinned, and the flexors of the thigh were a good deal atrophied (though this does not show well in the photograph). The hip-joint could not be fully extended. Rectal examination revealed the presence of a pulsating swelling in the pelvis. The arteries throughout the body showed slight atheromatous changes, but not to a greater degree than one would expect to find in a man of the patient's age and occupation. It was noted that the right femoral artery commenced 1 in. external to the mid-point between the anterior superior iliac spine and the pubic symphysis. The patient showed some interesting deformities. The thumb and index finger of the right hand were fused together, the middle and ring fingers of the same side were absent, though the metacarpals of each were present, that of the middle finger being, however, rudimentary; the little finger was represented by two complete digits articulating with a common metacarpal.

Owing to the severe pain and the possibility of rupture of the aneurysm, it was decided to tie the internal iliac artery.

Operation.

Having opened the abdomen by an incision 5 to 6 in. in length along the right linea semilunaris, I attempted to obtain an exposure of the division of the right common iliac vessels at the brim of the pelvis by holding the intestines aside with sponges and retractors. Though the arteries could, of course, be plainly

felt pulsating, I found it quite impossible to obtain sufficient view to enable me to pass a ligature. This difficulty was due largely, if not entirely, to the fact that we had been unable to get the patient into a proper Trendelenburg position. The table used had not the necessary adjustment for this position, and attempts to obtain it by raising the pelvis with sandbags and pillows had not been very successful since we did not like to apply much pressure in the neighbourhood of the aneurysm. Moreover, the flexion of the hip tilted up the thigh to an awkward angle when the pelvis was lifted to any great extent. Under the circumstances I was compelled to enlarge the wound by making a short transverse incision, and even then had to withdraw a good deal of intestine from the abdomen before I could obtain a view of the spot where the arteries lay beating behind the posterior peritoneum.

Here the second difficulty presented itself. I found that I was in considerable doubt as to which was the internal iliac artery owing to an abnormal arrangement of the vessels. After a good deal of trouble it was found that the anatomy of these was as follows: The right common iliac divided rather above the lumbo-sacral articulation into its two divisions. Of these, the true external iliac lay at first internal to the other, and disappeared almost at once into the pelvis. It soon reappeared, running forwards along the pelvic brim, and finally curved sharply outwards, almost at right angles, to Poupart's ligament, behind which, as already noted, it passed 1 in. external to its usual position. The true internal iliac was at first placed external to the external, and ran down along the inner border of the psoas above the pelvic brim. Shortly beyond the point at which the external artery appeared out of the pelvis, it crossed in front of this latter and continued its usual course down into the pelvis. All this was very puzzling to make out, as one was working at the bottom of a deep wound, and had to depend as much on one's sense of touch as that of sight. However, having at length ascertained the course of the vessels and confirmed this by noting the effects of compression on the pulsations of the femoral in the thigh, I snipped through the peritoneum covering the internal iliac artery, and with an aneurysm needle passed a double thread of No. 8 silk around it. This required some little care, so as to avoid wounding the vein. The ligature was then tied as tightly as I dared (the artery was somewhat calcareous and rigid), completely stopping pulsations below, though a curious thrill could be felt at the point of the ligature as if from a minute squirt of fluid. The little slit in the peritoneum was next roughly brought together by a single stitch, the intestines returned, and the abdomen closed in the usual way. Examination of the buttock showed that pulsations in the aneurysm had quite ceased.

There was some shock following, necessitating infusions by the rectum, but after the first twenty-four hours the patient's progress was uninterrupted. Recurrent pulsation in the aneurysm commenced, however, two days after the operation. This was almost to be expected in view of the freedom of the collateral circulation. These pulsations were never very marked, though persistent. The patient was given potassium iodide, and the aneurysmal swelling gradually became smaller, and—the most satisfactory point—increasingly harder. The pain was also considerably lessened. The patient left the hospital about six weeks after the operation.

I saw the man at his own home about four weeks later. He was then able to walk about his cottage comfortably, and said that the pain had quite left his thigh, and was only felt to a moderate degree along his leg and foot. The aneurysm could still be felt to pulsate, but not markedly. It was smaller than before the operation, and felt quite hard.

I have called this a case of gluteal aneurysm, though I am not prepared to assert that this vessel was involved rather than the sciatic. Indeed, from the rather low position of the most prominent part of the enlargement, and from the way in which it pressed upon the great sciatic nerve, a sciatic aneurysm is rather suggested. When, however, the swelling has reached the size that this had it is impossible to distinguish between the two, nor is there the least necessity to do so; and the term "gluteal" is a convenient one to apply to anything pertaining to this region.

The diagnosis of aneurysm in this position from a pulsating sarcoma may be quite impossible, but in this case the slow growth, the uniform consistency of the lump, and the marked thrill, made us feel pretty certain we were dealing with the former condition; this was confirmed by the result of the operation, though against this must be quoted a very instructive case recorded by Mr. Bernard Pitts, in which marked temporary improvement was brought about in a vascular pulsating sarcoma in the gluteal region by ligature of the internal iliac.[1]

In performing the operation the transperitoneal method was selected (as, I should imagine, it would always be in these days), as being by far the simpler, easier, and safer way. As Sir Frederick Treves says: "The advantages of this method are obvious. The vessel is fully exposed, and the needle can be passed without risk to vein or ureter. The ligature can be applied accurately at the spot determined upon, and the condition of the artery and the surrounding parts can be made out."[2]

One of my difficulties was to obtain a clear view of the posterior peritoneum covering the vessels, owing to the bulging intestines. On the left side this difficulty might be increased if the sigmoid flexure were fixed by a narrow mesentery, for the mesentery would then have to be incised before exposure could be effected. The importance of the Trendelenburg position cannot, I think, be exaggerated.

The abnormal condition of the vessels which caused my other chief difficulty could not, of course, be guarded against. It must be remembered, however, that an abnormal arrangement of the iliac arteries is not very uncommon. Mr. Bernard Pitts, in operating on the case of sarcoma mentioned above,[1] says that he at first failed as he thought to find the internal iliac artery. He continues, "Having failed . . . I exposed and ligatured what I believed to be the common iliac, but after drawing the ligatures tight it was found that pulsations still continued in the femoral artery. Further examination showed that the external iliac artery was lying just outside the vessel ligatured. The common iliac was very short and the internal was correspondingly long and lying in almost the whole of its course above the brim of the pelvis parallel with the external vessel."

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AMPUTATION FOR DIABETIC GANGRENE.

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AMPUTATION for diabetic gangrene is an operation always attended with danger, and is a cause of much anxiety to the surgeon. The following case is reported as illustrating precautions which may be taken to ensure, as far as possible, a successful result.

A married woman, aged 62, was admitted to the Middlesex Hospital under the care of Mr. Sampson Handley on September 3rd, 1908. She was suffering from moist gangrene of the left lower extremity. The gangrene extended above the ankle, the skin had given way at many places, and there was considerable discharge of pus. She was extremely feeble, the pulse was 120, and the temperature 98° F. The arteries were rigid, and the pulse almost impalpable.

For the previous three years the patient had not had complete control over the bowels and bladder, and had suffered from troublesome vomiting. She had had a terrible thirst for three years, had complained of polyuria, and had wasted considerably. The urine had a specific gravity of 1030, and it contained albumen, some pus, and 2 per cent. of sugar.

When Mr. Handley saw the patient he suggested her removal to the ward reserved for septic cases, as he did not consider that she would stand an amputation of the limb, but later he consented to my attempting it, and kindly entrusted the case to my care. Under local anaesthesia I exposed the anterior crural nerve, and Mr. D. Ligat exposed the great sciatic. Into the sheaths of these nerves was injected a solution of novocain, and the incisions were sutured. Dr. F. E. Meadows then administered a mixture of nitrous oxide gas and oxygen for about eight minutes, and I amputated the limb at the junction of the lower and middle thirds of the thigh. The patient at once recovered from the anaesthetic, and was quite comfortable, complaining of no pain. Her pulse was certainly no worse, but, if anything, rather better than before the operation. Drachm doses of sodium bicarbonate were given per rectum as a prophylactic measure against the onset of coma.

There was nothing in the convalescence calling for special notice except that the site where a drainage tube had been inserted showed no attempt at healing for some time; in fact, it was not until October 26th—seven weeks after the amputation—that the stump could be said to be absolutely healed.

Under medical treatment the patient's general condition improved somewhat. Examination of the urine on October 14th showed that there was less than 1 per cent. of sugar, with some pus, and on October 19th that there was only a trace of sugar, though pus was still present.

The patient never recovered sufficient strength to use her crutches, and the circulation in the right lower extremity gave some cause for anxiety. She left hospital on November 11th for her own home, where she was to remain in bed. She was, I am informed, comfortable and happy at home for about three months, when she began to lose ground again. She died of coma on April 17th, 1909—over seven months after the amputation was performed.

NOTE BY MR. HANDLEY.—"The condition of this patient before operation appeared desperate, and the favourable issue of the case affords the clearest possible proof of the value of the methods employed."

The special dangers attending amputation for diabetic gangrene may be classified under three heads—dangers from the anaesthetic, dangers from shock, and dangers of sepsis.

In diabetes there is such interference with carbohydrate metabolism that sugar cannot be used; it is not united with the protein of the tissue cells or blood serum, and being a diffusible substance, this free sugar is immediately excreted in the urine. The interference with carbohydrate metabolism leads to a call for other foods, and the condition described as fatty liver may be produced. The presence of histologically visible fat in the liver cells may be due (1) to the dissociation of fat, which was already in the liver, from its loose chemical union with the protein of the bioplasm, in which form it was histologically invisible but ascertainable chemically; or (2) the fat may have been transferred to the liver from the subcutaneous and other fat stores for the purpose of being prepared for the requirements of those organs and tissues where it is to be used. Possibly both processes occur, but in neither case can the condition be accurately described as a "fatty degeneration." If the extra call on the fats of the body be great, their metabolism is likely to be incomplete, owing to the inability of the bioplasm to make full use of them, and if the lower fatty acids be thrown into circulation, their presence will be shown at once by their appearance in the urine. This statement is made on the assumption that the fat is to be used as fat and that its catabolism is incomplete. If, however, as Pflüger believes, sugar, which cannot be accounted for by the carbohydrates of the foods or tissues, be formed from fat, the presence of the lower fatty acids might be explained by their being provided for the purpose of sugar synthesis.

It is generally acknowledged that it is acidosis, due to the circulation of fatty acids, which is, in some way, responsible for the onset of diabetic coma. Pavy[1] says:

> Sugar, in proportion as it is present in the blood, produces toxic effects of various kinds, which may lead indirectly to death, but it does not, in a direct manner, kill. With regard to the acids belonging to the acetone series, however, the same cannot be said. Their effect in the blood is to interfere with the performance of one of the necessary functions of life.

This vital function is the elimination of carbon dioxide. The alkalis of the blood, sodium carbonate and sodium phosphate, are, to a certain extent, neutralized by the fatty acids, and so there is less available for the conveyance of carbonic acid from the tissues. This leads to a diminution of the carbon dioxide content of the blood and an accumulation of carbon dioxide in the tissues, which, in Pavy's view, leads to the onset of coma. It may be as Pavy states, or, on the other hand, the supervention of coma may be due directly to the acidosis, as maintained by Beddard, Pembrey, and Spriggs.[2]

Since acidosis is in some way responsible for the onset of diabetic coma, and since post-operative coma, according to Ruff, occurs in diabetes in 10·6 per cent. of cases, it is essential that the surgeon should avoid every possible cause of the supervention of acidosis or the increase of it if present.

Special calls leading to increased fat combustion may be very slight, such as the adoption of a too strict dietary or starvation before operation. To quote Pavy[3] again:

> We know how easily through the general state the acetone bodies may be increased. A severe attack of migraine, for instance, may send them up, and influenza, pneumonia, etc., may do so sufficiently to suddenly bring about the supervention of coma.

How much more may a surgical operation prove disastrous especially if performed under the influence of an anaesthetic which may itself lead to the condition of acidosis!

But there are some operations which must be performed on diabetics, and it is the method of their performance that must be looked to to prevent a fatal termination. A certain amount of disturbance of fat metabolism occurs quite commonly after the administration of anaesthetics, as is shown by the frequent appearance of acetone and di-acetic acid in the urine. Acidosis has been noticed after the administration of chloroform, ether, and ethyl chloride, but the disasters have occurred most frequently after chloroform, which has led to the use of the term "delayed chloroform poisoning." The more serious results from chloroform are probably due to the marked effect of that drug on the liver, and also to its effect on the kidneys preventing the rapid elimination of the products of incomplete metabolism, or possibly the materials for sugar synthesis. Fatty changes in the heart, liver, and kidneys have been produced experimentally by the administration of chloroform, and it has been shown that a single prolonged anaesthesia with chloroform induces fatty changes in the liver. Moreover, cases of post-anaesthetic fatty acid intoxication have been noticed especially in conditions associated with fatty changes in the liver, such as diabetes, sepsis, rickets, alcoholism, starvation, malnutrition, and the cyclical vomiting of children.

The anaesthetic, then, is clearly one item in an operation on a diabetic patient which requires careful choice, and chloroform is universally avoided; but since ether also leads to acidosis, it may in the same way be a source of danger, and diabetic coma has been seen to ensue soon after its use. If a general anaesthetic must be given, nitrous oxide and oxygen will prove sufficient for most operations of necessity on diabetics; and if such anaesthesia be not long enough, resort should be had to local, regional, or spinal analgesia. The anaesthetic difficulties and dangers may thus be overcome, and the central nervous system also protected from impulses from below, and shock prevented or diminished.

Though it is now over eleven years since Bier first injected cocaine into the spinal theca, for many reasons spinal analgesia has not been generally adopted. This is a matter for congratulation, for of all the advantages which the younger surgeons of to-day inherit from their seniors and predecessors, there is none which should be so prized and so carefully preserved as the confidence and esteem of the public. That may indeed be said to represent the crowning reward of years of labour. By a wise conservatism this confidence has been gained, and it is a truism to say that nowadays most patients submit themselves to treatment by surgical measures with perfect confidence, looking forward to the operation with hope instead of dread.

Conservatism and old fogeyism must not be confused, however, and no better distinction can be found than that drawn by Professor Osler, who has said, "Conservatism and old fogeyism are totally different things. The motto of the one is 'prove all things and hold fast that which is good'; and of the other, "Prove nothing, but hold fast that which is old.'"

Spinal analgesia has great advantages in certain conditions, but, if only from the very fact that the patient is conscious, it has also grave disadvantages, and it is questionable whether it will ever replace general anaesthesia as a routine practice. No more suitable case could be found for its use, however, than that of an amputation for diabetic gangrene. It is the universal experience of those who have adopted it that there is no shock from operations performed under its influence, and thus the dangers from shock and those from a general anaesthetic may be overcome by the one procedure, though, of course, all the usual precautions against the onset of shock must also be taken. In the case which has just been described, nerve blocking was used, and unconsciousness was induced by the administration of nitrous oxide gas. At the date of the operation there were reports of accidents and even disasters occurring under spinal analgesia which led the writer to prefer nerve blocking. Other inducements to use nerve blocking were the reports of cases where it had been extremely successful, notably in a case of interscapulo-thoracic amputation reported by Rutherford Morison.[4] Spinal analgesia, however, has now become more established, and though there seems no good reason to adopt the method as a routine practice its use in suitable cases is of the greatest value. There is a large field for its employment in cases where a general anaesthetic is contraindicated by some disease of the heart or lungs or in conditions associated with fatty changes in the liver and other organs. Also, as pointed out in a leading article in the BRITISH MEDICAL JOURNAL for January 15th of this year, "there is a class of patient for whom the dread of losing consciousness is itself a bar to all but life-saving operations. Then there is the advantage that, if put to it, the anaesthesia can be induced by the operator even if he be single-handed." This last advantage should make the method especially useful in military work or in cases requiring operation at sea. The possibility of using a

combination of spinal analgesia with a light general anaesthesia must not be lost sight of. Such a plan, like the adoption of nerve blocking and nitrous oxide anaesthesia, would seem to combine the advantages of both methods.

The dangers from sepsis in cases of diabetes lie in the special liability of such patients to septic conditions, due to the poor nourishment of the tissues owing to endarteritis, the interference with the proper nerve supply owing to neuritis, and the presence of free sugar in the blood and tissues forming a good breeding ground for micro-organisms. These dangers require special precautions apart from the ordinary measures taken in every surgical operation. For example, the employment of a tourniquet is best avoided, and every effort should be made to prevent bruising of the tissues from rough handling. The question of drainage is a serious one. In the case reported the drainage opening would not heal for some time and was exceedingly sluggish and indolent in appearance. Sinclair White[5] has recommended that "drainage should be unnecessary if haemostasis has been properly attended to." While considering such a practice to be somewhat risky, since a collection of fluid in the flaps would be a source of more danger than the insertion of a drainage tube, I cannot but think that the drainage opening should be small, and that a suture should be inserted ready for tying when the tube is removed.

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The Morison Lectures

ON

EPILEPSY.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

BY

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LECTURE II.—THE PROBLEM OF EPILEPSY (*continued*).

TOXAEMIC EPILEPSY.

IT has for a long time been contended that an excitant of epileptic seizures might be found in toxic or autotoxic causes arising in connexion with the body metabolism or gastro-intestinal disorders. The discrepancies, however, in the results of observations by different workers upon urinary and blood toxicity in epilepsy have not afforded satisfactory evidence upon which to found such a theory. It is now generally accepted that the altered condition of the urine and blood which has been found in association with epileptic attacks by many observers is the temporary effect and not the cause of the seizures. Some explanation of these variations may be found in differences in the nature of the cases upon which the researches were carried out. Changes have not been found in the minor, or "petit mal," type of the disease. Those cases which have shown the most pronounced reactions both of blood and urine have been instances of serial epilepsy, the status epilepticus, and fits accompanied by acute mental symptoms—types of the disease in which, from the general constitutional disturbances, there is more reason to suspect an infective or toxic causation.

Binswanger[1] has called attention to a small group of epilepsies which may have a toxaemic basis. This group is characterized by—

(*a*) Well-marked premonitory signs, of which the most common are of a psychical type; irritability, fitfulness, quarrelsomeness, lethargy, somnolence and delusions.

(*b*) Fits of frequent occurrence developing either into serial epilepsy, or the status epilepticus, accompanied by constitutional disturbances, such as furring of the tongue, constipation, acceleration of the pulse and elevation of temperature.

(*c*) More or less prolonged intervals free from attacks between the seizures.

I pass over with a mere reference the observations of Voison and Peron,[2] who found a hypotoxic condition of the urine before and a hypertoxic condition after the fits; of Haig,[3] who laid stress upon the relation of epileptic fits to the normal diurnal variations in the excretion of uric acid; and of Krainsky,[4] who attributed the convulsions of epilepsy to the formation of carbamic acid, one of the derivatives of urea.

The presence of cholin in the blood and cerebro-spinal fluid of epileptics was originally described by Donath.[5] This substance, which was found by Mott and Halliburton[6] in the cerebro-spinal fluid in organic nervous disease, was attributed by them to disintegration of the myeline sheaths of the nerve fibres. Some observers hold that this is the cause of convulsions, owing to its toxic action, as it has also been found in cases of general paralysis with epileptiform seizures. On the other hand, it has been looked upon as the result of the fits. It has been shown experimentally (Dide, Donath) that moderate doses of cholin injected into the circulation do not produce convulsions, but that in large doses both convulsions and paralysis may result. Buzzard and Allen[7] showed that the large doses of cholin necessary to produce convulsions in animals were much in excess of what could be produced under ordinary conditions in man. In a recent paper Donath[8] records the results of his experiments into the convulsion-producing properties of the substances found in the blood and urine of epileptics. He showed that when injected into guinea-pigs and dogs, uric acid, neutral urate of sodium, carbonate of ammonium, kreatin, and lactic acid were entirely innocuous. The only convulsion-producing substances were ammonia and the organic ammonium bases—trimethylamin, cholin, kreatinin, and guanidin; the last body is not found in human urine, but is one of the uric acid products.

A generally recognized feature of infection is increased coagulability of the blood. Dr. John Turner[9] has shown (1) that the average rate of coagulation is quicker in severe cases of epilepsy; (2) that the rate is quickened during the period that the patient is having fits (serial epilepsy); (3) that there is a further quickening of the coagulation rate up to twenty-four hours before a seizure; and (4) that, from twenty-four to forty-eight hours after a fit, there is a rebound and retardation in the rate of blood coagulation.

Intravascular clotting occurs clinically in cases of infection, most probably as a result of the liberation of nucleo-proteid. Dr. John Turner[10] has suggested that just before an attack the leucocytes and blood plates shed their nucleo-proteid. In consequence a hyaline material is found in the smaller arterioles and capillaries, obstructing the free course of the circulation. These appearances are most conspicuous in the brains of persons dying in status epilepticus, as well as in general paralytics in whom epileptiform attacks have occurred. It is, therefore, not improbable that some types of epileptic convulsions, notably serial epilepsy and the status epilepticus, may be associated with nucleo-proteid thrombosis arising from toxaemic influences within the body. A further sign of toxaemia, described by Lewis Bruce as occurring in some forms of acute insanity of toxic origin, is a hyperleucocytosis associated with a high percentage of polymorphonuclear cells. It would appear from the observations of Pugh and Bruce that a hyperleucocytosis was found in cases of serial epilepsy, and those complicated with acute mental symptoms.

The general conclusion, therefore, which might be drawn from these observations, is that the type of epilepsy due to toxic causes may be found in those acute forms of the disease known as serial epilepsy and the status epilepticus. These may, therefore, be regarded as accidental occurrences in the course of the disease.

THE IMMEDIATE CAUSES OF EPILEPTIC SEIZURES.

It has been observed that the onset of an epileptic fit may be accompanied by a temporary cessation of the heart's action and the pulse beat. This transient stoppage is attributed to cardiac inhibition; the loss of consciousness and the fit to the resulting sudden cerebral anaemia. The most recent advocate of the cardiac inhibition theory of the causation of epileptic seizures is Dr. A. E. Russell,[11] who

has collected a quantity of evidence in its favour in his Goulstonian Lectures for 1909. He does not, however, contend that complete cardiac arrest occurs in every epileptic convulsion, for the pulse may persist throughout a fit, although in his opinion an extreme feebleness, short of absolute cessation, might be sufficient to initiate a fit.

It is well known that convulsions may be due to the sudden cutting off or to the prolonged deprivation of the cerebral blood supply. The convulsions of Stokes-Adams disease, the Kausmall-Tenner fits provoked by ligature of the internal carotid arteries, and the spasms consequent upon electrical stimulation of the peripheral end of the cut vagus nerve are all due to this cause. Russell contends that the fundamental factor underlying the epileptic fit is cerebral anaemia, probably associated with vaso-constriction of the cerebral blood vessels. He holds that the sudden and profound loss of consciousness, so characteristic of the major epileptic seizure, is not due to an intense "discharge" from the cortical grey matter, as is commonly stated, but to a sudden cessation of the whole cerebral circulation. This may vary in degree, so as to cause either transient unconsciousness or a severe convulsive fit.

The direct evidence in support of this view is meagre, apart from the temporary cessation of the heart's action sometimes observed at the commencement of an epileptic fit. It would be, therefore, well to look for collateral evidence which might support the vasomotor spasm theory of the origin of epileptic fits. A comparison has been drawn between what occurs in epilepsy and some of the phenomena of Raynaud's disease. The retinal arteries have been found on ophthalmoscopic examination to be narrowed during the paroxysmal attacks of impairment of vision which occur in some cases of this disease. The fundus of the eye has also been examined ophthalmoscopically at the commencement of an epileptic seizure. Sir William Gowers did not observe any vaso-constriction of the retinal arteries under these circumstances. Recurring attacks of transient hemiplegic paralysis have been described by W. Russell, Langwill, and others, as due to intermittent closure of the cerebral arteries—a condition which might, if sufficiently sudden and complete, conceivably give rise to convulsions in predisposed persons. The well-known phenomena of migraine, also are in many ways favourable to the hypothesis of vasomotor spasm as the underlying cause. Leonard Hill[12] produced a typical fit in himself by digital compression of one carotid artery. He says:

> The first effect on applying the compression was a sensation in the eye on the same side: then there followed a sensory march of formication down the opposite side of the body. This began in the fingers, spread up the arm, and then down the leg. Finally, clonic spasms of the head occurred, accompanied by an intense feeling of vertigo and alarm.

The evidence in favour of cerebral anaemia being the cause of convulsions is therefore clear, but as yet there is no direct demonstration of either vaso-constriction or cerebral anaemia being the exciting cause of the recurring seizures of epilepsy.

Paralysis of the vaso-constrictor nerves rendered permanent by removal of the superior cervical ganglion has not led to that favourable outcome which was expected of it when introduced as a means of treating epilepsy, on the theory that the fits were due to cerebral anaemia from vaso-constriction.

Admitting the instability of the vasomotor system as a feature of most epileptics and vaso-constriction and cerebral anaemia as a cause of some fits, we have still to arrive at an explanation of the cause of a periodic tendency to arterial spasm.

Whether the primary excitant of the epileptic attack be a spontaneous "discharge" of nervous energy, or cerebral anaemia induced by vaso-constriction and cardiac inhibition, the fit would seem to originate in some portion of the cerebral cortex. I accept the old view of Hughlings Jackson that epilepsy is a disorder of the highest level, and I contend that the observations of many subsequent workers—anatomical, experimental, and clinical—have placed the highest level between the intermediate precentral and prefrontal zones.

Campbell[13] has shown that in association with each recognized cortical centre there exists a corresponding higher or psychical centre. He has described the psycho-motor, psycho-sensory, psycho-visual, and psycho-auditory centre in close relation to the motor, sensory, visual, and auditory centres, situated respectively in the precentral, occipital, and superior temporal gyri. If a higher olfactory centre exists, it is probably to be found in the lobus pyriformis, but its delimitation is less clear than in the case of the other centres.

The nature of the aura determines the portion of the cerebral cortex in which the fit starts. Warnings of special sense are either crude sensations or sensations of a more elaborate and psychical character. The latter are especially characteristic of idiopathic epilepsy. It is, therefore, conceivable that the "discharge" commences either in the lower or higher portion of a special sense region, according to the nature of the warning sensation.

A noteworthy point is the constancy of the warning in particular cases. As Herpin pointed out, the warning sensations, however diversified they may be, are always, or nearly always, similar in the same subject. There are only few exceptions to this. During the course of the disease the aura of the major seizure may disappear, but the minor attacks retain the character of the original warning.

In the case of the large number of epileptics in whom no warning of the seizure is present, but in whom the fit is ushered in by a sudden and profound loss of consciousness, the discharge conceivably originates in the frontal area. Here the onset of the fit is essentially psychical. The patient is dazed, or stuporous, or drops down suddenly. In many of these cases transient conjugate deviation of the eyes occurs, or a cry is uttered.

The completeness or incompleteness of an epileptic fit—that is to say, whether the attack is an aura sensation, a minor, or a major seizure—depends upon the intensity, duration, and extent of the cortical discharge. Hughlings Jackson's idea of epilepsy was the occasional sudden, excessive, violent discharge of a nerve centre, sensory, motor, or psychical. The conditions which favoured such discharge were congestion and excess of blood in the cortical capillaries, with retarded motion and consequent alteration of the nutrition of the cortical cells. This view has lately been revived by the observations of Dr. John Turner, who has found in the brains of persons dying from epilepsy minute thromboses of the cortical capillaries. He suggests that just prior to the onset of a fit the blood plates shed their nucleo-proteid contents. The result is the formation of granular or hyaline thrombi, which in persons hereditarily or structurally predisposed to cortical instability is sufficient to provoke a cortical discharge and epileptic fit.

Whether in any particular case the morbid condition, which gives rise to the "explosion" is inherent in a cortical centre, common to the whole cerebral cortex, or is attributable to a vasomotor instability or blood condition, are points which still remain mysterious.

It may be asked: What is the cause of the enormous variability in the frequency of epileptic seizures—a frequency which varies from two or three fits in a year to several score in twenty-four hours? Is the same cause at work in both these types of the disease?

In whatever part of the cerebral cortex the discharge arises it rapidly spreads along the association and commissural tracts so as to involve both sides of the brain, although one side is usually more affected than the other. Hence it comes about that the examination of the reflex, motor, and sensory systems after a major epileptic fit reveals evidence of temporary paralysis, and of alterations in the reflexes, indicative of a transient disturbance of the pyramidal system. The knee-jerks are at first abolished and then exaggerated, the abdominal reflexes are lost, and the plantars show a temporary extensor response. These symptoms vary in accordance with the character of the seizure. They are not present after minor attacks; they may be observed on one side only, in cases where the convulsions have been preponderatingly unilateral. They are most obvious, and persist longest after serial outbursts or the status epilepticus. Temporary impairment of motor power (exhaustion paralysis) is observed on one or both sides, but more especially on the side which has shown the greater convulsion. Diminution or loss of cutaneous sensibility may also be found after a fit. It is most marked in the limbs which show the greater motor weak-

ness. Amblyopia, deafness, and impairment of smell and taste may also be of temporary occurrence.

THE BORDERLAND OF EPILEPSY.

I have adopted this term from Sir William Gowers,[14] who has recently described a number of conditions which are near to epilepsy but not of it.

In the sense used by Gowers, the term includes some phenomena which will not be discussed in this lecture, such as the minor seizures of labyrinthine disease, attacks often difficult to differentiate from epilepsy; migraine, which will not receive further consideration here, although the paroxysms of this disease are well worthy of study as they reveal much that is interesting in connexion with epilepsy; and vertigo, a general symptom of intracranial disease, which would lead us too far away from the prime object of the lectures.

Epilepsy and Hysteria.

In any discussion, therefore, of the phenomena on the borderline of epilepsy, brief consideration should, in the first place, be given to hysterical seizures and their differentiation from epileptic attacks.

Both epilepsy and hysteria are diseases founded upon a hereditary degenerative endowment. Both disorders have a common clinical symptom, namely, the periodic occurrence of paroxysmal attacks, characterized by an alteration of consciousness. This is hardly the place to enter into an analytical consideration of the distinction between these two great psycho-neuroses apart from their paroxysmal phenomena.

I have in the preceding lecture attempted to point out what may be regarded as the outstanding symptoms of epilepsy, and have endeavoured to show that although in recent and slight cases it may remain thoughout a so-called "functional" disease, in the severe and the confirmed cases with mental impairment the symptoms become grafted upon an organic alteration of the cortical tissues. Epilepsy, in consequence, is a dementing disorder. Hysteria, on the other hand, remains throughout a purely functional and mainly psychical disease. According to Janet,[15] its fundamental characteristic is a dissociation or severance of some mental processes from the main personal consciousness. It has no pathological anatomy, and no tendency towards dementia.

Clinical study of the attacks which occur in these two diseases has led to difficulty and confusion rather than to simplification in their differential diagnosis. The most recent observations tend to show that there is no such generally recognized condition as "hystero-epilepsy" in the usually accepted sense. Binswanger states that interparoxysmal hysterical symptoms may be added to genuine epilepsy and vice versa. It would also appear probable that a prolonged hysterical attack may terminate with symptoms in no way differing from those of genuine epilepsy. Bratz and Falkenberg found that all their cases were either hysteria or epilepsy, or a combination of the two diseases.

Major hysterical attacks are, as a rule, fairly distinct in character from major epileptic seizures. But the minor attacks of both disorders are sometimes not easy to differentiate. If an attack is being described by an untrained onlooker it may be a difficult matter for a physician to decide whether the paroxysms are those of epilepsy or hysteria, as the duration of the minor seizures in both diseases is almost the same and they may both occur in series. Moreover, the perversion or dissociation of consciousness in the hysterical attack may readily be mistaken for the abolition or impairment of consciousness which is the characteristic feature of the epileptic seizure.

On the other hand, if the attack should be observed by the physician, there is, as a rule, less difficulty. The rolling or squinting movements of the eyeballs, and the oscillations of the head in the hysterical attack, are quite distinct from the tonic conjugate deviation of the head and eyes in the epileptic; the tonic spasm of the limbs inducing flexion of the arms and extension of the legs in the latter are in contrast to the tonic spasm mainly of the muscles of the neck and back in the former; the steady development and eventual yielding of the clonic spasms in epilepsy stand out in striking contrast to the vibratory tremors of the hysterical attack; and the sudden relaxation of the spasm, and the almost instantaneous return to consciousness in the hysterical seizure is a feature of noteworthy importance. The hysterical seizure also differs essentially from the epileptic in the three following additional features:

1. The hysterical seizure does not terminate in psychical disturbance, confusion, or automatism. Hystericals come out of their attacks suddenly, and often express a feeling of relief after the attack is over.
2. As pointed out by Janet, there is a possibility of awakening the phenomena of the hysterical seizure by hypnotism. Epileptics are not at all hypnotizable, and in consequence it is not possible to produce in them a real somnambulistic state with consecutive amnesia.
3. Should it be possible to examine the reflexes of the patient recovering from a seizure, certain changes will be found in most cases of major epilepsy.

The most important transient changes indicating disturbances of the pyramidal system are alteration of the plantar reflex from the normal flexor to the abnormal extensor response, abolition or impairment of the abdominal reflexes, and exaggeration of the knee-jerks.

If, therefore, it is not always possible to distinguish the epileptic from the hysterical seizure during the attack, an examination of the patient at or immediately subsequent to its termination will usually be sufficient.

EPILEPTOID PHENOMENA.

I now enter upon a subject of great complexity. There is no doubt that many people are prone to attacks which cannot be classified either under hysteria or epilepsy. The attacks are in the main purely subjective, but in some cases objective phenomena, chiefly of a circulatory and vasomotor character, may be observed.

Numerous writers, whose special work lies chiefly in neurological practice, have described attacks having features which will be depicted presently. Owing to the absence of any systematic classification, there has been a tendency to group the symptoms under different headings, each author devising his own terminology for the sake of convenience or according to his conception of the malady.

Psychasthenic Attacks.

Oppenheim was the first to describe, under the term "psychasthenic attacks," certain periodic seizures, mainly because they occurred in persons subject to common psychasthenic symptoms, such as fears, dreads, apprehensions, obsessions, and tics. The leading features of these attacks were:

(*a*) That they did not occur during childhood.
(*b*) That there was a special cause for the attacks.
(*c*) That they were of infrequent occurrence.
(*d*) That they were characterized by prolonged unconsciousness without convulsion, and only slight twitching of a few muscles.
(*e*) That there was an absence of mental changes.

Such attacks would seem to be extremely rare, and in my opinion difficult to differentiate from epilepsy.

The Dreamy State.

Janet[16] has described under the term "psycholepsy" conditions characterized by an alteration of consciousness, which favours the development of a "dreamy state," in which a feeling of unreality or of non-existence is the outstanding symptom.

Mention has already been made of the "dreamy states" described by Hughlings Jackson as the warning of some fits with epigastric and olfactory auras. It is important to distinguish between this aura sensation and the condition which is now being described. Patients describe the mental state as a feeling of non-existence, with doubts as to the reality of things, even as to the material existence of their own bodies; they also have doubts as to whether what they see and hear are real. It may more appropriately be termed a "reverie" state, and is frequently associated with feelings of an obsessional or psychasthenic character. Symptoms of this kind are not uncommon in epileptics. Crichton-Browne and Pick (of Prague) have described them as becoming permanent in some cases of confirmed epilepsy, and I have seen and described them as psychical epileptic equivalents.

Other Periodic Seizures.

Sir William Gowers,[14] in his most instructive lectures, has described seizures whose symptoms were referred chiefly to the distribution of the pneumogastric nerve. To these he has given the term "vagal or vaso vagal attacks."

Finally, Dana[17] has designated under the term "para-epilepsy" seizures of a psychical, vertiginous, or vaso-motor type, occurring in neurotic or psychasthenic individuals, more especially about adolescence. As these seizures, according to this observer, resemble "aura fits," or abortive epileptic attacks, he has classed them in a group of para-epileptic phenomena.

It is therefore clear that observers now recognize a type of periodic seizure, which is neither hysterical nor epileptic, occurring in persons of a neurasthenic or psychasthenic temperament. Attacks of a not dissimilar kind, however, may be observed in subjects of genuine epilepsy, and there are other attacks in which the diagnosis from hysteria is most difficult and uncertain.

These attacks may therefore be provisionally placed in a group by themselves, but it seems to me as if a name is still lacking which will fitly embrace the whole series.

I have suggested the term "epileptoid" as one which seems to include all the symptoms of a paroxysmal and recurring character which lie upon the borderline of epilepsy.

It would seem possible from our present knowledge to subdivide these symptoms into two groups:

(*a*) Attacks having features especially of a vasomotor character.

(*b*) Attacks having symptoms especially of a psychical character.

Vasomotor Attacks.

These seizures are characterized by throbbings, thumpings, and beatings of the heart, flushings of the face and a fullness of the head, dizziness, and frequently sensations of a paraesthetic character in the extremities, such as numbness, tingling, and pricking.

They may be of daily occurrence, and last from a few minutes to several hours. They occur in persons of a nervous temperament. Dana notes that there is usually an associated element of thyroidism. In one case of my own there was a decided tendency towards dermographism.

Gowers also describes seizures characterized by definitely vasomotor symptoms, such as coldness of the limbs, pallor of the face, shivering almost amounting to rigor, tingling and numbness of the extremities, and sometimes a slight tetanoid spasm.

A fuller development of these seizures, bringing them into a relationship more akin to epilepsy, is well illustrated by the vaso-vagal attacks described by Sir William Gowers. The symptoms as given by him are:

1. Sensations referred to the stomach, heart, and respiratory systems.
2. The ascent of the sensation from the stomach to the chest, throat, and head.
3. It is accompanied by a feeling of respiratory distress and cardiac oppression, fear, and a sense of impending death.
4. There is no true loss of consciousness, but the mental operations are slow, and sometimes characterized by a feeling of unreality.
5. The attack ends with a great acceleration of the heart's action.
6. The whole attack lasts for about fifteen or twenty minutes.

Women suffer more frequently from these attacks than men. This, and the fact that the pneumogastric and vasomotor systems are readily influenced by emotion, have probably led to the frequent submergence of these attacks beneath the vague conception of hysteria!

Psychical Attacks.

These are seizures in which the outstanding features are of a psychical character—usually a sense of apprehension, dread, or fear. They are commonly associated with sensations of nervousness, numbness, coldness, nausea, cephalic sensations, and frequently accompanied by sensations of a vague, indescribable character. Sometimes the feeling of fear is intense, and may be replaced by a sense of impending death.

In the true attacks of this kind consciousness is never abolished, but the mental state may assume a dreamy attitude, with a feeling of unreality. The attacks occur in persons who present other features of a psychasthenic character, such as dreads, fears, and apprehensions. There is usually also a well-marked neuropathic heredity. Although in many cases the attacks are of the kind just described, there are other cases in which they merge into epileptic seizures.

The attacks described here as "psychical" are clearly closely related to those of a more purely vasomotor type, the vaso-vagal attacks of Gowers being seemingly the connecting link between the two types of seizure, as well as between them and attacks of an epileptic nature.

Relation to Epilepsy.

This is a suitable place to draw attention to some of the outstanding features of these attacks, and to compare them with epilepsy.

One of the commonest forms of warning in epileptic seizures is the epigastric sensation, consisting of a subjective sensation referred to the stomach or upper abdominal area. Epigastric sensations are of various kinds. Some are vague and indefinite, others are of an indescribable character, and others are painful, spasmodic, or cramp-like. These sensations may or may not be associated with gastric disturbances, such as flatulence or any abnormal condition of the stomach contents. In the majority there are no signs of local gastric disorder.

Closely allied to the epigastric sensation is the cardiac warning, which consists mainly of palpitation of the heart, and sometimes of pain, and is generally accompanied by a sensation of suffocation, strangulation, or oppression, sometimes with a sensation of impending death. So closely does the condition resemble angina pectoris that a variety of minor epileptic attacks has been designated "epileptic pseudo-angina." A notable accompaniment of the epigastric warning and its allied sensation of cardiac oppression is sensation of intense fear, or apprehension, and sometimes a desire to be alone.

The symptom of fear, in association with fits accompanied by epigastric warning, is well known, and was pointed out by Hughlings Jackson many years ago. But it is not confined to fits with epigastric warning. It is also found as a very characteristic feature in that remarkable group of fits known as "uncinate seizures," or epileptic attacks with a warning of smell and taste, due to organic disease of the uncinate gyrus. In addition to the sense of fear, which has been already mentioned, a peculiar "dreamy state" has been described in which consciousness is lost or perverted.

Whatever may be the explanation, it would appear to be a well-recognized fact that a definite relation exists between epigastric sensations and a sensation of fear or apprehension. This relation is not confined to epileptic attacks. It is also present in other conditions. In many states of fear or alarm a vague sensation is referred to the abdomen. Persons who suffer from melancholia constantly refer to the feeling of weight or oppression in the region of the stomach; and many individuals, obsessed by some fear or panic, refer to a vague and indefinite sensation in the stomach as the source of their discomfort.

If we now apply the principles which have been already laid down when considering the march of an epileptic attack, it is obvious that minor epileptic seizures may occur, characterized by an epigastric or cardiac sensation, accompanied by a sensation of fear, or of oppression or even of impending death, in which consciousness may be retained, or at the most merely blurred or perverted.

I have ventured at some length into this discussion, because, as Dana has shown, the attacks already described as "psychical seizures" have many of the qualities of epileptic auras and abortive epileptic fits; hence the term "para-epilepsy" which he has applied to them.

The close relation between epilepsy and the vaso-vagal attacks has also been emphasized by Sir William Gowers, who regards them as a long-drawn-out or extended epileptic seizure. He says:

> Some of the facts we have glanced at suggest that it is possible that the elements of an epileptic attack may sometimes be extended, and thereby made less intense, though not less distressing. . . .
>
> If we could conceive a minor epileptic attack that is extended, its elements protracted with no tendency to be terminated by loss of consciousness, its features would be so different, that its nature would not be suspected Swiftness is an essential element of ordinary epilepsy, but this does not preclude the possibility of deliberation.

Dr. A. E. Russell, who has already been quoted as the most recent supporter of the cardio-inhibitory theory of epileptic seizures, interprets these attacks in the following way:

A sudden depression of the normal vasomotor tone in the splanchnic area leads to a rapid accumulation of blood in the capacious vessels of that region. If only momentary in duration the result is merely the sudden sinking at the pit of the stomach. If of longer duration this preliminary sensation or aura is succeeded by a faint. . . . The dreamy mental state and the fear of impending death may be due to the vascular depression, which must of necessity affect the brain. If consciousness is lost it shows that the vascular depression has reached a point incompatible with consciousness, and that this is the missing link connecting it with epilepsy.

The position of these seizures in the periodic phenomena allied to epilepsy therefore depends upon the view taken of the nature of epileptic attacks. Russell regards the whole series, from simple syncopal attacks or faints up to epilepsy, as primarily of vasomotor origin. He favours the doctrine that such symptoms are signs of "a vasomotor ataxia," a condition in which the vascular mechanism is unable to adjust itself to strain. Whether this is the true explanation of a remarkable series of phenomena is a point upon which it is difficult to offer an opinion. The theory just expressed certainly brings a train of not dissimilar periodic seizures into line.

Epilepsy, however, seems to me to be primarily so much a cerebral or psychical disorder that I hesitate to classify it along with faints and syncope as a disease of the vasomotor mechanism. Many of the features of the borderland conditions just described are not psychical, but seem to be the consequences of functional disturbances of the lower centres in the medulla oblongata. I would also emphasize the fact, already referred to in the first lecture, that the convulsive element is only one feature of epilepsy. True epilepsy is always accompanied by some psychical alteration, apart from symptoms of a psychasthenic kind. I am not aware that the epileptoid conditions just described ever present any tendency to mental impairment or dementia.

Sleep Phenomena.

The physiological condition underlying sleep is especially favourable for the development of epileptic attacks. It was shown in the first lecture that the few hours after falling off to sleep are the hours most favourable for the occurrence of epileptic fits. In consequence of this there is in many cases of epilepsy a striking regularity in the periodicity of the attacks, a fit occurring at or about the same hour on each occasion. This period of deepest sleep is also a favourable time for certain sleep symptoms which appear to be upon the borderline of epilepsy—namely, night terrors in the adult. Night terrors are common in neurotic children, but their significance is merely that of an unstable nervous system. Their occurrence in adults, or their continuance from childhood into adult life, is of greater significance, and may raise the question of their epileptic character in some cases. They usually reveal themselves in the utterance of loud piercing screams, sometimes a single scream, at other times more frequently repeated. Their chief characteristic is that, having occurred at some time during the first few hours after falling off to sleep, they do not occur again during the same night. They have been known to recur every night for many months in succession; on the other hand, they may recur only at long intervals. In most cases the sufferer is entirely unaware of their occurrence, except in those cases in which sleep-walking also occurs, where the patient awakes and finds that something unusual has taken place.

I have known cases in which the attack has been associated with a dream, but these are more likely to be cases of epilepsy.

Sleep-talking and sleep-walking either replace or may be associated with nocturnal screaming. Adult patients subject to these and similar sleep symptoms sometimes present the stigmata, both structural and psychical, which are characteristic of epilepsy. In all there is a well-marked neuropathic heredity. It is well known, however, that attacks in which a patient may wake suddenly from sleep in a state of nervous fear, apprehension, or panic are of temporary occurrence, and indicate a state of nervous stress or strain, induced by overwork or anxiety, and not infrequently excited by some gastric or intestinal disorder.

I wish, however, to point out that sleep symptoms are found from time to time in persons of highly nervous temperament, which should be regarded as symptoms of importance and should be classed as phenomena upon the borderline of epilepsy.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RUPTURE OF BOTH QUADRICEPS EXTENSOR CRURIS TENDONS.

THE two cases of rupture of both quadriceps extensors reported by Drs. Chichester and J. Wallace Milne in the BRITISH MEDICAL JOURNAL of November 6th, 1909, p. 1343, and January 22nd, 1910, p. 199, have interested me very much and brought to my mind a similar case which I had in August, 1904.

J. H., aged 60, a coal salesman, slipped while carrying a bag of coals from his lorry to the cellar. He fell forwards, losing all power in his right leg. He tried to get up by putting his left beneath him; this also gave way, so that both legs were completely powerless beneath the knee. He was carried home, and I found both quadriceps tendons ruptured, leaving large gaps above the patellae.

Horseshoe-shaped strips of plaster were applied to bring down the ruptured ends of the tendons, and long splints applied to both legs. The legs were kept rigid for six weeks, when splints and plaster were removed and passive movement and massage applied for four weeks more.

After removing the splints large pads were placed behind the knees for several hours daily, leaving the legs and feet without support, so that their weight assisted considerably in producing flexion of the knee-joints, and in a short time he was able to take walking exercise.

He made an excellent recovery and resumed work twenty-four weeks from the time of the accident. He does not follow his former occupation, but is employed at the present time as coal shedman, and his legs never give him any trouble whatever, although he experiences many heavy lifts in the performance of his duties.

Arbroath, N.B. RICHARD KELLY.

PARACENTESIS OF THE PLEURA.

I HAVE read with interest the abstract of the paper by H. Hochhaus on "Puncture of the Pleura," which appeared in the EPITOME of the BRITISH MEDICAL JOURNAL for January 29th, but so far as the details are given, I am inclined to think that they are less convenient than the method which I first used while resident medical officer at Brompton Hospital, and have been in the habit of employing for the last twenty-eight years.

I described and demonstrated this method before the Medical Society of London (*Proceedings*, vi, 304), but the account published at the time was incomplete, and from the paper now under notice I am led to think that a short description may be useful. Given a sterile trocar and surgically clean skins of surgeon and patient, the apparatus prevents any possible infection from without, or any unintentional introduction of air or liquid. It is also in several respects easier to handle than that referred to by H. Hochhaus or any of those I have seen used or described.

For the indispensable purpose of removing any obstruction in the cannula with the minimum of interference to the operation, I selected a trocar designed and made by Matthews which certainly seems to me much more convenient than that described by Hochhaus. This trocar or

needle is furnished with a blunt probe co-axial with the cannula passing through a stuffing box, while the draw-off tube is affixed to the side. Normally the handle of this probe projects through the stuffing box, and leaves an unobstructed lumen in the cannula. On any obstruction occurring, the probe, without any dismantling of apparatus or interference with the operation, is simply pushed forward into the cannula and withdrawn. If this is ineffective, a momentary suction can be applied as described below. The trocar or needle is also provided with a sheath, which, when the pleura has been entered, is pushed forward to present a blunt and harmless end to the expanding lung.

The charging of the apparatus with antiseptic liquid is effected by an exhausted bottle, and the actual withdrawal of fluid from the patient by a siphon tube, the aspirator bottle and the siphon tube being connected to each other and to the trocar by a three-way cock. By this means the trocar or the siphon tube can be filled, the trocar subjected to the sole action of the siphon tube, or a strong suction applied momentarily for clearing the cannula by merely turning the handle of the stopcock in the appropriate direction. All the parts of the apparatus are readily taken apart and put together, and can be sterilized by boiling.

By either substituting a water manometer for the vacuum bottle or by connecting it to a T-piece on any suitable part of the system, variations of pressure can be followed.

To prevent trouble resulting from coughing, the manometer is furnished with a mercury valve similar in construction to the mercury thermostat. The normal pressure of air in the system passes to the water manometer through two small orifices. On any sudden rise of pressure, such as occurs on coughing, one orifice is stopped by a rise of mercury in the valve.

The use of a manometer is, of course, quite needless in the majority of cases, but for special purposes—for example, observation of expansile power of the lung, or in very chronic cases—it may be desirable, and this automatic contrivance for preventing the interruption which coughing sets up is the most useful I have met. By adding a wash bottle to work under slight pressure, the apparatus can be used equally well for evacuation or for injection of the pleura, the bladder, or any other organ containing, or intended to contain, liquid.

A matter of much importance alluded to in H. Hochhaus's paper is the question of when to operate if fever is present. Over-delay under such a condition exhausts the patient, and the removal of quite a moderate quantity of fluid is followed by subsidence of the fever. The operation, too, can be rendered so painless now by the use of cocaine or its substitutes—all of which were unknown when I first operated—that no patient is likely to be alarmed if a second paracentesis should be deemed advisable.

London. FREDERICK J. HICKS.

TWO UNUSUALLY SITUATED CHANCRES.

THE following two cases are considered worthy of recording on account of their similarity and the somewhat unusual situation at which infection took place. In both cases the sores on admission were hidden in the pubic hair, which leads us to conclude that each originated in a hair follicle.

Private, R.M.L.I., aged 25, was admitted to the sick list on December 21st, 1908, with a sore situated in the middle line of the abdomen, half way between the umbilicus and the symphysis pubis. He stated that it began as a pimple, which he scratched repeatedly until it became a raw surface. On admission the sore had ragged edges and there was a large amount of surrounding induration; there was also a bubo in the right inguinal region. A scraping of the surface was taken and stained with Giemsa's stain and *Treponema pallidum* demonstrated in appreciable numbers. He was placed on continuous treatment for syphilis, intramuscular injections of mercurial cream being employed. On March 20th he developed secondary symptoms, consisting of a well marked rash and "snail track" ulcers on the fauces. Later he developed an ulcer on the right leg, of typical serpiginous character.

Stoker Petty Officer aged 39, was admitted to the list on September 1st, 1909, with an unhealthy pustular sore in the right inguinal region. The underlying lymphatic glands were enlarged, indurated, and tender. Since the sore did not react to treatment, but continued to spread and had a sloughing base, syphilis was suspected. A scraping was taken and stained with Giemsa, and *Treponema pallidum* found. In this case the patient was very definite in his statement that there had been no abrasion of the skin previous to the appearance, a few days before admission, of what he described as a "boil." The sore healed rapidly when he was treated with intramuscular injections of mercurial cream. A secondary syphilitic rash appeared four weeks after the case came under observation.

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Surgeon, Royal Navy.

A PATIENT'S ACCOUNT OF THE CRISIS OF LOBAR PNEUMONIA.

I WAS called on October 21st, 1909, to see a woman, aged 36, who presented well-marked signs of left lobar pneumonia. The illness had begun two days previously with a rigor and general malaise. She was extremely thin and had been in ill health for some months. The attack was severe, accompanied by much pain, and the condition of the heart caused much anxiety. She passed the crisis on the night of October 25th, the temperature falling from 101° to 98°. The resulting depression was severe, and at about 9 a.m. on October 26th her husband came to tell me she was dying, as she was unconscious and had no control over the bladder or rectum. I went at once and found her in a very serious condition, the surface cold, the pupils dilated, and the pulse only 64. Hot brandy and milk was given freely and hot bottles applied to the feet, and in about twenty minutes she seemed to revive, though her condition was very serious. She recovered slowly; the chest cleared well, but there was a good deal of pain and swelling in the left knee and ankle, due, I suppose, to pneumococcal infection of these joints.

The patient herself gave me a much clearer account of her feelings during the crisis than I have ever received, and as it is rarely one can get such an intelligible story of subjective sensations, I requested her to write it down. The following is her account:

After tossing about in bed for a week, with a feeling that my left lung was burning, coughing incessantly, and suffering acute pain in my side, I began to feel weaker, and on the seventh day I felt something really serious was about to happen, and told my husband what to do with the children and home in case I died before morning. Then came a night of intense heat and restlessness. I was frequently delirious and my eyes seemed drawn to the ceiling, which I imagined to be the clouds which were waving to and fro always. In the early morning I felt the fire in my lungs had suddenly gone out and hot vapour was pouring in all directions in my chest almost choking me and making me gasp from time to time. Then I began to sweat profusely, and everything began to fade from my sight and grow dark. At this time the heat was unbearable, and I began to fall as it were from the clouds. As I fell I began to get cold, until I seemed to be far below the earth's surface in a large cave which was dark, cold and very damp. . . . I knew I was dying and was quite ready to go. Next I remember my husband asking how I was, but I could not speak neither could I see. . . . Soon after this I heard some one sobbing violently, then again a little later I heard some one breathing hard, which I thought was a large dog and wondered why it was there; this was the doctor, who had been hastily summoned and who had just entered the room. Then I heard some one calling loudly, which disturbed me as I had been praying for rest and sleep all night long, and I felt I had just got the most perfect peace and rest it is possible to have when somebody called me by name and asked me if I could hear, and I replied "Yes," and from that time I slowly recovered.

OSCAR B. TRUMPER, M.B., B.Ch.(Vict.),
Aston, Birmingham. F.R.C.S.E.

THE Mission to Lepers in India and the East has received an urgent appeal from the native state of Hyderabad for assistance in building an asylum near Nizamabad. There are said to be 2,000 cases of leprosy within forty miles of that town; the bakers were recently expelled from the town itself, as the disease was rife among them, and the mission doctors discovered cases among the butchers. A local Hindu merchant has offered a site and a substantial contribution towards the cost of the building. The organizing secretary of the Mission is Mr. John Jackson, 33, Henrietta Street, Strand, W.C.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GYMPIE HOSPITAL, QUEENSLAND.

TWO CASES OF PELVIC TUMOUR.

(Reported by W. SIDNEY SWEET, B.Sc., M.D., B S.Lond., M.R.C.S.Eng., late Medical Superintendent and Resident Surgeon.)

THESE two cases present features of special interest pathologically, and illustrate difficulties met with during operation, the first one on account of its large size and the second on account of its unusual shape and the consequent alteration of the anatomical relations.

CASE I.

Elizabeth L., a married woman aged 55, and a nullipara, sought advice for enlargement of abdomen, progressive and of five months' duration, and pain and tenderness for two months. Six months ago she was 24½ in. in circumference, and now she is more than 32 in. She had been losing flesh rapidly, was constipated, and the left foot and ankle had been swelling. She had been married twice, but had had no children nor any miscarriages. Menopause four years ago. She had never had an illness of any moment. The patient was a little, slight woman, with a dark and sallow complexion. The abdomen was enlarged and protuberant, especially the lower part. A large, firm tumour could be felt, the bulk of which was on the right side, but it spread right across the abdomen. It extended upwards into the right hypochondrium and downwards into the pelvis. It was moderately regular in outline, but rounded lumps could be felt. One on the extreme right was very tender on pressure. Free fluid was present in the left flank, which was thought to be localized by adhesions, as there was no shifting dullness on change of position. Dilated veins were visible on the surface, running upwards from the right groin.

Per vaginam: The vagina itself was quite soft. In its roof anteriorly could be felt two lumps and posteriorly another lump pushing down towards Douglas's pouch. These were solid but not hard. On pressing firmly upwards movement was communicated to the tumour. The cervix could not be identified.

The edge of the tumour was well defined. Percussion over it was absolutely dull. Below the umbilicus it was almost in contact with the abdominal wall, but above, the elastic stretched wall had to be depressed by the fingers before the upper edge could be felt.

The heart was normal, but there were signs in the lungs. Bronchial breathing right side in front, dullness at both bases, absolute over the left base with absence of vocal resonance and breath sounds, and very definite crepitations. There were also crepitations at the right base, but less distinct. The pulse averaged 100, and the temperature, which was occasionally slightly raised, about 98.8°.

Subsequent Course.—She had some difficulty with the bowels, but passed urine normally, quantity between 30 oz. and 40 oz. daily, the specific gravity being moderately low, but containing nothing abnormal. Her chief complaint was pain, which was very severe at times, especially at night, and usually on the right side of the abdomen, but there were intervals when she was quite free from pain. The abdomen increased in size, and the superficial veins became more apparent. The diagnosis was easy, except as to the exact nature and origin of the tumour; it was malignant growth of right appendage with secondary deposits in lungs. The bad nights became more frequent, and dyspnoea began. The patient begged that something might be done to relieve her of the weight of the tumour, and prayed that she might die on the operating table rather than continue as she was. It was on this account that operation was agreed upon, and also on the slender chance that the tumour might prove to be innocent and the condition of the lungs due to fluid at the bases, an extension from the abdomen. She was operated upon three and a half weeks after admission.

Operation.—The bladder was sounded, the sound passing 3¾ in. An incision was then made midway between umbilicus and pubes. On opening the peritoneum there was an escape of dark, clear, blood-stained fluid; then the tumour presented itself. It was smooth, solid, and with rounded nodules on the surface; it was softening in parts. The hand was introduced, but it could not pass right around the tumour on account of a large adhesion on the left side. The wound was now enlarged upwards almost to the xiphisternum and downwards to the pubes, and the hand passed around the tumour above. Even then considerable retraction of the lax abdominal wall was necessary before the large diameter of the tumour could be got out over it. Adhesions on the right were then separated piece by piece after ligaturing, and adhesions and large entering vessels on the left. One very large thick adhesion united the tumour to the sigmoid colon. An encircling incision was then made through the peritoneum above the thick pedicle of the tumour, the centre of which came from the right broad ligament near its junction with the uterus, and with some difficulty the peritoneum was stripped downwards, and the pedicle ligated in sections and snipped across with scissors. This was a very difficult procedure, since the tumour was practically sessile, and owing to its great size it overhung, and interfered with the work going on beneath. The haemorrhage was only moderate, but owing to the patient's condition, and on the advice of the anaesthetist, it was found necessary to accelerate matters. The peritoneum was accordingly drawn over the stump, and a large drainage tube having been inserted, the abdomen was rapidly closed by through-and-through stitches of silkworm gut. It was noticed during the operation that the ovaries were enlarged, and that there were small miliary growths like sago grains along the small intestine. Also that there were purple patches of congestion in the parietal peritoneum.

The tumour weighed 12½ lb., but this does not convey a fair impression of its size. On section a number of rounded areas were observable of a darker colour than the rest, and slightly raised above its surface, and there was a medium-sized cavity full of gelatinous semifluid material. A portion was sent to the Government pathologist, who examined it microscopically, and reported it to be a spindle-celled sarcoma.

For the first two days after the operation there was little complaint of pain and only a little clear blood-stained fluid came from the tube; then atony and distension of the small intestine took place, and patient had at times alarming dyspnoeic attacks. She died in one of these on the fourth day after.

Post-mortem Examination.—Pedicle wound in good condition; very little free fluid in abdominal cavity; recent adhesions of small intestine. Uterus and ovaries adherent to surrounding structures behind and at the sides of the pelvis, so that the fingers could not be pushed down into the pouch of Douglas. The right ovary was about three times its normal size, and on section was white and firm, without any trace of normal glandular tissue. There were small lumps in the broad ligaments and at the back of the uterus. Small sago grain deposits in small intestine. Liver small, pale, and firm, but no growths. The right lung had recent adhesions. The left lung was consolidated near the base, and the pleura coarse, rough, and thickened.

CASE II.

Adeno-carcinoma of Uterus.

Margaret W., a married woman aged 42, and a nullipara, was admitted as an urgent case for profuse haemorrhage from the uterus. She said that she had been losing blood at times—between the periods—for over a year. She had been treated medically with some success and had menstruated regularly until two weeks ago. Since then she had been bleeding slightly until 4 o'clock in the morning of admission, when she had a considerable haemorrhage. She had been married fourteen years, without children or miscarriages.

She was a well nourished woman, pale, but not very anaemic. Her pulse was 64 and of good tension, but soon quickened up to 106. Shortly after admission she vomited copiously. On examination blood was oozing from the vagina, which was full of clot. The vagina was narrow and short, and in its roof a rounded smooth firm tumour could be felt, which filled up the hollow of the sacrum. The finger could be just swept around it, and it had very much the same feel as the presenting occiput at full term. The external os could not be defined. The continuity of the tumour with the uterus was made out bimanually. By abdominal examination the uterus was found to be enlarged to about half-way between umbilicus and pubes, with a small firm lump on the right side. The bleeding was much lessened by hot douching with a solution containing tinct. hamamelidis and calcium chloride. The vagina was then plugged with iodoform gauze and ergotinin citrate gr. $\frac{1}{60}$ injected hypodermically. This checked the bleeding completely, but next day the mucous membranes were very pale and the pulse moderately accelerated, and some permanent measure had to be considered. It was thought most probable that fibroids were present and it was decided to operate. She was first examined in the lithotomy position. The vagina was so small that it would only admit one finger, and a small dilatable speculum was inserted and the vagina dilated before anything could be seen. No external os was then visible, but a rounded tumour which appeared to form part of an enlarged cervix. Manipulation started the bleeding, and on swabbing the bleeding point could be identified on the front aspect of the tumour, which was apparently breaking down. This was plugged again and the patient laid on the table in the Trendelenburg position. The skin of the abdomen had already been well prepared. A 3-in. incision was made in the middle line between umbilicus and pubis, the peritoneum opened, and the small intestine pushed up and packed off with gauze. The uterus was then examined. The fundus was little larger than the normal size except for a small firm round subperitoneal growth on the right side. The lower pole was uniformly enlarged and blocked up the pelvic canal. It measured 3½ in. in diameter and was solid. The uterus had the shape of a pear with the head hanging downwards. It was decided to remove it. There was also a single smooth-walled cyst about the size of an orange attached to the right broad ligament close to the right ovary. The wall was thin, moderately tense, and it fluctuated freely. The broad ligaments were clamped and the ovarian and uterine arteries ligatured on each side in the usual way, except that, owing to the inverted pear shape of the uterus, the clamps

pointed outwards instead of inwards, which rendered the operation much more difficult. After securing the main uterine artery on the left side, some difficulty was experienced in picking up and ligating a branch which came off from the main artery above the ligature; but this was eventually done without much bleeding. The crux of the operation was the removal of the enlarged lower pole of the uterus. The peritoneum was stripped off with some difficulty. It was adherent to the uterus, which was tough and fibrous. On account of its bulk the structures on either side were crowded together and their anatomical relations altered. The scissors were used freely, but the greatest caution had to be maintained for fear of injuring the ureters and other structures. The separation of the bladder in front was easier. Finally, just before entering the vagina some soft broken-down material was met with, and this was thoroughly removed with a sharp spoon. A large rubber drainage tube was then pushed into the vagina, and a single catgut suture fixed this. The peritoneum was drawn over it and united with continuous catgut suture. The cyst of the right broad ligament was removed in the usual way, and the whole operation site carefully swabbed over with normal saline solution and dried with gauze. The packs were then removed and the abdomen closed.

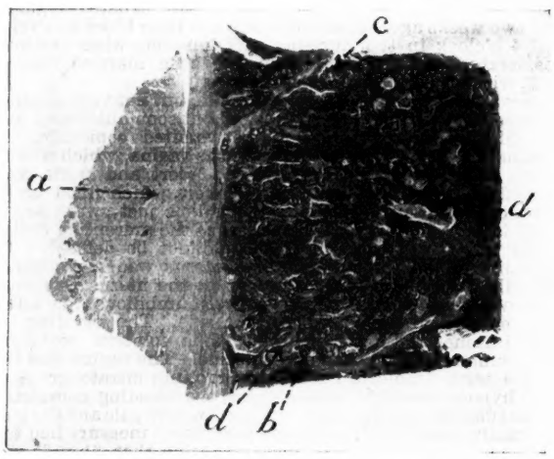
The patient made an excellent recovery, and gave no anxiety from the first. The temperature remained practically normal throughout, and the pulse, which was never weak, gradually fell from 108 to 80. A very little bloodstained discharge came from the vaginal tube for the first day or two. On the third day the tube was removed, and the vagina douched daily with warm boric solution for a week. The urine remained clear throughout, and there was no trace of blood. About a week after there was a deposit of mucus and some pus cells in the urine: urotropin and salol were given in turn, and it cleared up. The stitches were removed from the abdominal wound on the tenth day. It was quite healed.

On making a section through the uterus it was found that there was no cervical canal. The growth formed a solid mass, which was breaking down in its lower part. The cyst contained clear yellow fluid.

The report from the Government pathologist was as follows:

Sections show advanced adeno-carcinoma.

The section here reproduced illustrates the oft-repeated statement that there is no sharp distinction morphologically between simple adenoma and adeno-carcinoma.



Photograph of microscopical section of adeno-carcinoma of uterus, magnified about four times. *a* is dense fibromyomatous tissue extending from the peritoneal investment inwards. The dark area represents alveoli of all sizes and shapes lined with cells, which, especially at *c*, have broken through the basement membrane and invaded the stroma; *d d* are alveoli; *b* a fibrous band. The section was taken at the junction of the body and cervix of the uterus.

At one end of the section the epithelial cells are arranged in alveoli, and do *not* invade the surrounding tissue. At the other end they are more irregular, and have broken down, losing their outline and individuality, while the alveoli are wanting in definition, and there is no so-called basement membrane apparent.[1] Note the dense fibromyomatous tissue on the outer side, suggestive of premyomatous formation with subsequent invasion of the tumour. Undoubtedly some of the degenerations of fibroids first described were of this nature. The section was cut from the upper part of the cervix, at its junction with the body of the uterus.

[1] This can only be seen in the large scale drawings.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

OBSTETRICAL AND GYNAECOLOGICAL SECTION.

Thursday, March 10th, 1910.

Dr. MACNAUGHTON-JONES, President, in the Chair.

MR. T. CARWARDINE gave a demonstration with the epidiascope of a series of photomicrographs from a case of *Ruptured tubal pregnancy* in a patient, aged 29, who was operated upon about twelve hours after the rupture. One specimen of a chorionic villus revealed the origin of multinucleated wandering cells from the fetal epithelium having cell processes, which, where not coagulated together by the hardening reagent, were of a delicate silken character embracing a red blood corpuscle at one place. Some of the wandering cells were attached, others free. A section near the point of rupture showed indications of the "cell sheet," also numerous cells derived from the trophoblast invading the blood clot and undergoing amitotic cell division. They resembled the invading cells seen in the tissues outside a chorion-epithelioma. Villi in contiguity showed great diversity in the characters of the epithelial coverings. Dr. RUSSELL ANDREWS described a case of *Carcinoma of the cervix* of a prolapsed uterus in a patient aged 86. Its special point of interest was that on the right labium, where it was touched by the carcinoma of the cervix, was a contact carcinoma. Vaginal hysterectomy and excision of the carcinoma was performed. The patient made a good recovery in spite of her advanced age. Dr. MCCANN said that he had not seen an example of cancer of the cervix associated with prolapse of the uterus. He had, however, seen examples of "contact infection" in the labia and posterior vaginal wall. In the latter position a cancerous cervical growth, polypoid in character, had produced infection at its point of contact with the vaginal wall, a portion of sound tissue existing between the contact growth and the cervix. It was difficult to assert with confidence that contact infection was the correct explanation in many cases, for it was more probable that direct spread along the lymphatics was the real cause. Indeed, what was most remarkable was that contact infection was so rare when all the conditions favourable for its occurrence were present. Dr. G. BLACKER had seen one case of prolapse of the uterus in which there was a carcinoma of the cervix so extensive that the cellular tissue was involved to a considerable degree, and the uterus could not be replaced. In view of the important part that chronic irritation had been shown to play in the production of carcinoma, it was a most curious fact that carcinoma of the cervix was so uncommon in cases of prolapse. He had never seen any adequate explanation of this fact. Might it be associated with the very poor and sluggish circulation through the vessels of the cervix, which was a condition present in bad cases of procidentia uteri?

LIVERPOOL MEDICAL INSTITUTION.

PATHOLOGICAL SECTION.

Thursday, March 3rd, 1910.

Dr. T. R. BRADSHAW, President, in the Chair.

DR. DOUGLAS CRAWFORD showed: (1) A *Fractured axis* from a man who had fallen down a staircase, head foremost, death being instantaneous. The fracture had passed through the odontoid process. The transverse ligament was intact. (2) A *Left cervical rib*, removed from a man aged 24, the first sign of which was nerve irritation following an injury to the shoulder. A skiagram showed that this rib articulated with a buttress of bone springing from the first rib, and that there was a small right cervical rib also. Operation removed all symptoms. MR. THELWALL THOMAS and Dr. MACKEREL showed: (1) A specimen of *X-ray dermatitis and epithelioma* in the finger of a worker in *x* rays. The trouble lasted many years, an ulcer appearing in the middle finger above the joint. On the other hand there was an ulcer which also proved epitheliomatous. (2) A loop of small intestine, 10 ft. in length, removed from a patient of 48, who had suffered for some time with *Intestinal obstruction*, culminating in

two previous operations, when many bands had been removed. At the third operation a matted mass with shortened mesentery was removed, the ends of the gut being joined by a lateral anastomosis, and the patient made a good recovery. (3) *Carcinoma of antrum.* (4) *Carcinoma of testicle.* Dr. R. W. MURRAY showed the sac of *Femoral hernia*, at the fundus of which were small bundles of muscular tissue, which were believed to be gubernacular fibres. Mr. THELWALL THOMAS ventured to suggest that the fibres of the gubernacular fibres should be non-striped. Mr. PAUL showed a section of *Recurrent breast cancer exposed to x rays* for some months. The shrunken character of the malignant cells was compared with those of the original tumour. A small *Ivory exostosis removed from a frontal bone*, which had only penetrated the outer table. Two specimens of *Hypernephroma*, or renal cancer: (1) from a lady aged 56, which was fatal from recurrence in nine months; (2) from a servant, aged 40, who was in good health a year after operation. Mr. RUSHTON PARKER showed a *Papillomatous carcinoma of the upper jaw and nasal septum.* Dr. PERCY MARSH and Dr. T. J. WILLIAMS showed (1) tubercle bacilli in large numbers, obtained from the cerebro-spinal fluid, removed by *Lumbar puncture* in a case of tuberculous meningitis. (2) A *Thymus gland* from a case of cerebro-spinal meningitis. The patient was a boy aged 11, who died on the fourth day of the disease, with a temperature of 108°. The gland weighed 336 grains. Dr. BUCHANAN and Dr. ERNEST GLYNN showed an *Aortic aneurysm* which had burst into a left lung. The PRESIDENT and Dr. ERNEST GLYNN showed: (*a*) (1) The intestines from a case of *Acute entero-colitis* with a membranous deposit in the ileum; (2) *Chronic ulcerative colitis* with nodular hyperplasia of the glands in the mucous membrane. (*b*) A specimen of *Bronchiectasis with cerebral abscess.* Dr. BUSHBY mentioned the case of a woman who suddenly became hemiplegic and died with coma. At the autopsy a large abscess was found in the parieto-frontal lobe, and a small bronchiectatic cavity in the apex of the left lung. Dr. ERNEST GLYNN showed the wall of a *Hydrosalpinx*, containing numerous large cells, which he regarded as foreign body giant cells. Mr. PAUL read a paper on the pathology of *Prostatic enlargement.* He criticized the chronic inflammatory and neoplastic theories, and gave reasons, physiological and pathological, for believing that the enlargement was the result of an involution change, comparable with involution hypertrophy of the breast in the female at the climacteric period. The paper was illustrated with lantern slides. Mr. THELWALL THOMAS thought that there were three classes of enlarged prostate: (1) Fibrous, due to inflammatory trouble; (2) true overgrowth; (3) adenomatous masses. Dr. ERNEST GLYNN and Dr. ABRAM also spoke.

Thursday, March 10th, 1910.

Dr. T. R. BRADSHAW, President, in the Chair.

Ureteral Calculi and X-Ray Diagnosis.

Mr. THURSTAN HOLLAND read a short paper on ureteral calculi and *x*-ray diagnosis. He laid stress on the importance of an *x*-ray examination covering the whole area of kidneys and ureters. He cited cases in which ureteral calculi were present in addition to kidney stone. He emphasized the importance of *x*-ray examination immediately before operation on account of the movements of ureteral calculi. Cases were related illustrating anomalous symptoms. An analysis of cases with statistics of hospital cases was given and the technique of examination was described.

Dr. ORAM considered that the surgeon should, in all cases, himself inspect the photographic plates, and cited a case where a mistake had occurred owing to the omission of this precaution, one stone only being removed from the kidney in which the plate clearly demonstrated the presence of three.

Dr. T. R. GLYNN related a case of anuria persisting for three days; a stone was removed from one ureter and was followed by an excellent recovery.

Mr. DAMER HARRISSON recalled the case of an old man seen *in extremis*; rectal examination revealed stones in both ureters.

Serums and Vaccines in the Treatment of Disease.

Dr. NATHAN RAW read a paper on the value of serums and vaccines in the treatment of disease. The paper was based on an observation of the effects of such treatment in 628 cases occurring in hospital and private practice. The serums employed included antistreptococcic serum, antidiphtheritic serum, antitetanic serum, and Maragliano's serum for tuberculosis. Antidiphtheritic serum was employed in 69 cases, and in definite cases of diphtheria the results had been excellent. The author had treated 8 cases of tetanus (acute and subacute) with antitetanic serum, on the whole with good effect. The effect of Maragliano's serum on 14 cases of pulmonary tuberculosis had been difficult to estimate; 28 cases had been treated by a single strain of antistreptococcic serum, and 182 cases by means of the polyvalent serum. The cases included such infections as puerperal septicaemia, acute erysipelas, malignant endocarditis, streptococcic cellulitis, acute tonsillitis, and septicaemia. The author found that the treatment of acute erysipelas by the serum was always attended with success, and one successful result in the treatment of malignant endocarditis was recorded. Amongst the vaccines employed by the author, tuberculin, pneumococcic, typhoid, and staphylococcic were considered. The action of Coley's fluid in 9 cases of inoperable cancer and sarcoma was recorded; in only 2 cases had there been any successful result. The effect of the typhoid and pneumococcic vaccines was uncertain. The treatment of carbuncles, boils, and pustules by staphylococcic vaccine had proved satisfactory. The author considered that in a great many cases of tuberculosis the treatment by means of tuberculin had been of very decided value. He employed tuberculin prepared from both human and bovine sources. He believed that local forms of tuberculosis, such as occurred in glands and joints, were chiefly due to the bovine type of bacillus, and that pulmonary tuberculosis was due to bacilli of the human type. He considered that in the local forms of tuberculosis the administration of tuberculin prepared from human sources had the most beneficial effect, and vice versa.

After remarks by the PRESIDENT, Dr. ERNEST GLYNN said he was surprised that Dr. Raw should consider that local forms of tuberculosis, as in glands and joints, were mostly due to bacilli of the bovine type, for the following reasons:

1. Recent observations by Smith, Oehlecker, Duval, Park, Lewis, and the German Imperial Health Office have shown that 34 out of 56 cases of cervical gland tubercle were caused by bacilli of the human type.

2. The Royal Commission has found that 16 out of 30 cases of gland tubercle, and 9 out of 9 cases of joint tubercle, were also of the human type; though Dr. Raw claimed "that their findings entirely corroborated" his views.

Dr. Glynn was also surprised that Dr. Raw should treat glands and joint tubercle, assumed by him to be of bovine origin, with tuberculin made from bacilli of the human type, because recent work indicated that a vaccine should be prepared from the *same* type of organism as that causing the infection, and should even be autogenous if possible.

Dr. HILL ABRAM said that his experiences with these remedies, excluding diphtheria, had on the whole been unsatisfactory. Dr. Raw's successful treatment of pulmonary tuberculosis with a remedy derived from a bovine source confirmed the old position, which Dr. Abram had never given up—namely, that there was no vital difference between bovine and human tuberculous disease. In fact, the matter stood pretty much where it did before Professor Koch's startling statement at the London meeting.

Dr. PERMEWAN thought there was a real risk of ordinary surgical principles being lost sight of in the eager rush to vaccines in certain cases. He instanced cases of chronic suppurative ear disease where much time had been wasted and danger incurred by the useless injection of vaccine, and he entered a protest against the growing practice of trusting to vaccines instead of resorting to surgical treatment. A little healthy scepticism was sadly required in these days of almost universal scientific credulity.

Dr. WARRINGTON said that impressions formed from a large number of cases were valuable, but that it was desirable to obtain, when possible, detailed analyses, since, as far as he knew, no single case of septicaemia had yet

been proved to have been cured by these means; for local infection the vaccines of *coli*, gonococcus, and staphylococcus were of approved benefit.

Dr. Mackenna said he had been disappointed in tuberculin. He had found no improvement in cases of lupus from the use of Koch's T.R, and his colleagues at the Skin Hospital had had the same experience. He had had a large experience in staphylococcic vaccine from various sources, and in many cases the most gratifying results had followed treatment. A pustular acne in a patient past the acne age would rapidly yield to vaccine therapy, but vaccines were not "cure-alls."

Dr. Oram stated that he had never seen any improvement from the administration of tuberculin in the treatment of cases of lupus. He thought that vaccines were unsuitable in acute cases, and that their use should be limited to those cases in which there was reason to believe that the toxin from the focus of infection was not obtaining access to the system. He related a case of furunculosis where ill effects had followed the injection of vaccine during the negative stage, and repeated temporary improvement followed each injection of serum.

Dr. Henry Clarke gave reasons founded on practical experience at the Consumption Hospital against Dr. Raw's practice of administering bovine tuberculin in cases of tuberculosis of the lung. The practice could not be defended in theory nor was it justified by his experience.

Dr. Crace Calvert thought that the hypodermic and oral methods of administration were better than the rectal. He did not agree that it was necessary to treat cases regarded as arising from the human type of bacillus by a tuberculin of bovine source and vice versa. He had had successful cases of each type treated with a tuberculin of human source.

Dr. O. T. Williams was of opinion that, in view of the magnificent results in the treatment of diphtheria and epidemic cerebro-spinal meningitis, antidiphtheritic serum and Flexner's meningococcic serum should be regarded as a class apart. In a series of cases successfully treated by Flexner's serum he had made a careful analysis of the resulting phenomena and had been greatly impressed with the value of this serum. He regarded treatment by means of vaccines as entirely empirical.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

Friday, March 18th, 1910.

Dr. W. K. Walls (Manchester) in the Chair.

Diffuse Intraperitoneal Haemorrhage.

Dr. A. W. W. Lea (Manchester) reported a case of diffuse intraperitoneal haemorrhage, probably due to rupture of an early ovarian pregnancy. The patient, a multipara of 29, was seen by Dr. Lea eight hours after the sudden onset of severe abdominal pain, with vomiting and faintness. She was extremely pallid, with a barely perceptible pulse, exceeding 130 beats in the minute. The abdomen was somewhat distended and extremely tender. There were signs of free fluid in the abdomen. The menstrual history showed nothing abnormal. A natural period had occurred three weeks previously. Vaginal examination revealed indistinct fullness in the pouch of Douglas, but no obvious swelling of the appendages. There was no uterine haemorrhage. Within an hour the abdomen was opened. A large quantity of fluid and clotted blood was found free in the peritoneal cavity. There was no enlargement of the Fallopian tubes. From the surface of the left ovary projected a thin-walled blood cyst, which had obviously ruptured, and was collapsed. The left appendages were removed. The right Fallopian tube appeared perfectly healthy. The patient recovered without any complication. The menstrual period commenced four days subsequently, and continued for three days, being of the usual type, without pain. The specimen and a number of microscopical sections were shown. The Fallopian tube was quite normal in appearance and on section. One pole of the ovary had been distended by a blood cyst, which was partially destroyed during its removal. Careful examination of the blood clot revealed a small area in which the presence of chorionic villi could be clearly demonstrated in microscopical sections. Sections of the ovary showed marked dilatation of blood vessels with many areas of haemorrhage in the stroma. The specimen excited considerable interest, and members were unanimously of the opinion that it would prove to be another example of ovarian pregnancy. Dr. Lea stated that further microscopical investigations would be made in order to determine the exact nature of the specimen.

Accessory Lobes to the Liver.

Mr. R. Favell (Sheffield) showed an accessory lobe of the liver which he had removed from a woman of 30. The patient had never been well since a septic abortion six years ago. For about six months she had had pain in the right side, and had noticed a lump. She had not been sick, and there had been no jaundice. She was pale and of a rather neurotic type. The abdomen was somewhat distended, and in the right iliac fossa there was a freely movable swelling the size of an orange. On bimanual examination the swelling could be felt at the pelvic brim. The left ovary was normal in size. The tumour was thought to be the right cystic ovary with a long pedicle. On palpating the abdomen under anaesthesia it was noted that the tumour had the pendulum movement of a gall-bladder tumour, and that it could not be pushed into the true pelvis. The abdomen was opened below the umbilicus, and an elastic globular tumour the size of a large Jaffa orange was seen to be attached to the liver by a short, broad pedicle. The tumour was dark purple in colour, in marked contrast to the colour of the liver, and its surface was marked by milky-white bands running in its capsule. Large vessels ran from the pedicle over the surface of the tumour. The pedicle was attached to the thin anterior margin of the right lobe of the liver. After clamping, the pedicle was cut through, and the bleeding was controlled by a double layer of mattress sutures of catgut. The whole operation was performed outside the abdomen through an incision whose upper end was 1 in. below the umbilicus. There was considerable ptosis of the liver. The patient made an uninterrupted recovery. On bisection, after hardening in formalin, the tumour was seen to be of a mottled greenish-yellow colour, and irregularly lobulated by fibrous bands and blood vessels. The colour quickly changed to an olive-green. Microscopical section showed liver tissue undergoing fatty degeneration.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Wednesday, March 16th, 1910.

Mr. A. Fulton, President, in the Chair.

Gastric and Duodenal Ulcers.

Dr. Stanley Green, in opening a discussion on the treatment of gastric and duodenal ulcers without operation, said that, owing to the care with which the symptoms had been described, duodenal ulcers were now more frequently diagnosed than formerly. It was not quite clear why duodenal ulceration was so much more common in the male. In the male, too, these ulcers became much more chronic, because a man had neither the patience nor the time to complete his cure that a woman had. Among the exciting causes of ulceration were anaemia, oral sepsis, the bolting of food, and especially the hurrying off to business immediately after meals. Worry was a potent cause of recurrence, and he was inclined to think hereditary influence played an important part in alimentary ulceration. In many cases all symptoms lay latent until perforation took place. The immediate dangers were perforation and haemorrhage, while the remote were pyloric obstruction, hour-glass constriction, adhesions about the bile ducts, and cancer. As regards treatment, in bad cases he commenced with albumen water for forty-eight hours, and by very gradual steps added to the diet until after about three months the patient was having a fairly generous diet; at the same time he gave a mixture of bismuth and morphine with papain. Bread was tolerated badly, and was about the last article to be added to the diet. He had not found rectal feeding necessary. Dr. Cattle's experience taught him that surgical treatment was generally necessary, owing to the tendency to relapse. In supporting this view Mr. Willis pointed out that old healed ulcers so frequently led to pyloric obstruction. Gastro-enterostomy afforded the

only complete relief. Mr. ANDERSON mentioned two cases of severe haemorrhage from duodenal ulceration which had completely recovered on medical treatment. He only advised operative treatment where medical methods were unsuccessful. Dr. PURVES thought the patient was more quickly and completely cured by surgical than by medical treatment. Men were especially intolerant of the slow medical treatment, and were likely to be failures. Dr. BURTON considered any case might be cured by medical means alone. Dr. PARRY JONES considered surgical treatment should be secondary to medical. He considered that medical treatment should be more thorough than as sketched by the author, and regarded rest in bed as essential in bad cases. In severe cases also he cut off everything, including medicine, by the mouth for the first few days.

PATHOLOGICAL SOCIETY OF MANCHESTER.

Wednesday, March 9th, 1910.

Dr. W. E. FOTHERGILL, President, in the Chair.

DR. POWELL WHITE gave a lantern demonstration of experiments on *Cell proliferation*. They consisted in the injection of fatty acids subcutaneously into the external ears of rabbits and the mammary glands of guinea-pigs. The acids used were oleic and palmitic acids. The injection set up aseptic suppuration, with the formation of an abscess. When such an abscess, he said, came in contact with any epithelium, such as a hair follicle or a sebaceous gland, the epithelium proliferated and grew over the surface of the abscess, forming a complete lining of squamous epithelium. In two cases in which oleic acid saturated with carbonic acid was used the epithelium showed more active proliferation and penetrated into the subjacent connective tissue, forming columns and isolated groups of epithelial cells. In two cases in which the oleic acid was saturated with methyl oxalate emboli of squamous epithelial cells were found in the lymphatics, and in these two cases also there were found multiple cartilaginous nodules growing from the auricular cartilage. The abscesses formed by injecting oleic acid into the mammary glands became lined with squamous epithelium derived by metaplasia from the mammary epithelium. Dr. MILLIGAN, in some observations on the pathology and treatment of *Otitic meningitis*, pointed out the usual channels of infection, the various types of meningitis, and the organisms responsible for its incidence. Lumbar puncture was of value, he said, both as a diagnostic and as a therapeutic measure; early operation should be practised, and be combined with frequent lumbar puncture to relieve intracranial tension. Among some *Tumours of the eyelid* shown by Dr. HILL GRIFFITH was a lipoma, a condition stated in the textbooks not to occur.

UNITED SERVICES MEDICAL SOCIETY.

Wednesday, March 9th, 1910.

Surgeon-General A. M. BRANFOOT, President, in the Chair.

Mercurial Injections.

STAFF SURGEON H. C. ADAMS, R.N., read a paper putting forward a plea for a uniform method of treatment of syphilis in the navy by the intramuscular injection of metallic mercury. This method, he claimed, was the most generally reliable, because it was extremely difficult to induce men to carry out a prolonged treatment by the ingestion method, owing to the traditional objection to taking mercurial pills, and to men tiring of continually visiting the sick bay when they had no active reminder of their disease. By the intramuscular method only a weekly visit was necessary; the medical officer had absolute control as to dosage, and digestive trouble was obviated. Inunction was obviously impossible for the service afloat. A short history of the use of mercurial creams in the navy was given, the various formulae from time to time adopted were described, and the essential points for an ideal cream discussed. The statements were supported by a series of samples and photomicrographs of cream, which showed that the main points in an ideal cream were: (1) The mercury must be in an extremely fine state of subdivision; (2) the basis should be sufficiently fluid at ordinary temperature to work freely in the syringe and needle, but sufficiently viscid to suspend the metal; (3) there should be no abrupt transition on warming from the fairly solid to the liquid state. The formula held to be the most generally useful contained: Mercury, 20 parts; anhydrous lanolin, 30 parts; chlorbutol, 2 parts (all by weight); and liquid paraffin up to 100 parts (by measure). Such a cream contained 1 grain of mercury in m v. A special all-glass syringe was shown fitted with a needle entirely of steel, including the socket; the use of platino-iridium needles had been abandoned owing to their liability to leak along the seam. Untoward results could be avoided by attending to the following points: (1) Absolute sterility of needles and materials; (2) choice of suitable site; (3) introduction of the needle at right angles to the skin, well into the muscles, detaching the syringe from the needle to make sure that no blood vessel had been entered; (4) keeping the needle track perfectly clear of cream by ensuring that the eye of the needle was free from cream before introduction, and waiting for a second after injection before withdrawing the needle.

Reviews.

ABDOMINAL SURGERY.

THE first part of the second volume of Professor HOCHENEGG'S textbook of special surgery is devoted to abdominal surgery.[1] The size of the volume, consisting as it does of over nine hundred closely printed pages, testifies to the completeness with which the various subjects are treated. The only respects in which it transgresses its subtitle is in the inclusion of affections of the male and of the female genital organs. Professor Hochenegg himself contributes largely to the volume, beginning with the first section, on the abdominal parietes and peritoneum. This section illustrates well the fullness of treatment which the different affections receive. It begins with chapters on the anatomy and the physiology of the peritoneum and general considerations on laparotomy. After a short chapter on diseases of the parietes, thirty pages are devoted to peritonitis in its various forms, and a chapter on tumours of the peritoneum, omentum, and mesentery follows. The section is completed by the consideration of abdominal injuries, which occupies forty pages. The second section, on the surgery of the stomach, is also from the pen of Professor Hochenegg in collaboration with Dr. Exner and Dr. Hans Lorenz. The authors speak emphatically on the value of gastro enterostomy in several types of gastric disease, including ulcer. The method recommended is the posterior-retrocolic, the opening in the jejunum being made as close as possible to its commencement. They have never seen regurgitant vomiting or peptic ulcer after this operation. The excision of gastric ulcers is not favoured. Affections of the intestine occupy the third section, in which, as in the others, a detailed description of operative technique is included. Among the ulcerative and inflammatory processes appendicitis naturally occupies a prominent place. In regard to treatment, Dr. Hans Lorenz adopts the position which, after many years' discussion, has now become widely accepted—that when a patient is seen within the first forty-eight hours of the onset of an attack immediate operation is always the best course. As stated here, the operation is as easy as, or easier than, the interval operation, is attended by a very low mortality, and saves the patient from all the numerous risks entailed by the policy of leaving things alone. Professor Hochenegg's work on rectal surgery is well known, and we turn, therefore, with particular interest to this part of the book. Under haemorrhoids he gives the following methods of operation—cauterization, elastic ligature, Whitehead's operation and injection. Excision with haemostatic suture is an alternative of which we would have expected mention. The discussion of rectal cancer is based on 243 personal cases, the particular method of operation depending on the site of the growth. Professor Hochenegg's method of choice is the dorsal, and he finds the risks of the abdominal method much greater. The mortality of his series was 11 per cent. Of 217 cases 42

[1] *Lehrbuch der speziellen Chirurgie.* Edited by Professor J. Hochenegg. Vienna: Urban and Schwarzenberg. 1908. (Sup. roy. 8vo, pp. 922, figures 374. M. 15.)

remained free from recurrence for over three years; of these, 2 died from late recurrence, the permanent recoveries being thus about 19 per cent. The fifth chapter of the book is on hernia, the sixth on the liver, spleen, and pancreas. The chapters on liver surgery are much more compressed than is usual in other parts of the book, the only subject adequately discussed being gall stone disease; the chapter on the pancreas is, on the other hand, admirable. Dr. Zuckerkandl writes two of the final sections on diseases of the urinary organs and of the male genital organs, while Dr. Keiler is responsible for that on the female genital organs. The scheme of the whole book is ambitious. The sections are written by men with special knowledge and training, and with few exceptions the discussion of the subjects is very full. Diagnosis is dealt with in a particularly thorough manner. The work forms a splendid testimony of the value of the surgical teaching at Vienna.

Mr. JONATHAN HUTCHINSON has revised the well-known Treves's *Manual of Operative Surgery*[2] to so great an extent that he has made it in reality a new work. The six years since the appearance of the second edition have seen many changes in operative practice and in no branch more than that with which the first volume is concerned. In its present form it is characterized by conciseness in description and careful selection of the methods worthy of record. It exactly meets the requirements of the surgeon who wants direction and instruction without elaborate discussion and an indiscriminate description. Mr. Hutchinson has, however, enhanced the value of the book by including considerations of the indications for operation where the question presents some peculiar difficulty. As in previous editions a description of the normal anatomy introduces each chapter; new coloured plates and other new figures have improved these useful sections, and we know no textbook of operative surgery so well equipped as this on points of surgical anatomy. Part I is concerned with general principles, and the most illuminating chapter is the first, on the condition of the patient. Mr. Hutchinson accords only a qualified approval to the use of rubber gloves, holding that for the surgeon they lessen delicacy of touch and precision; he cuts short the sterilized operating coat at the elbow; why leave the forearms bare? The second part commences with a chapter of considerable length on abdominal section. The writer seems somewhat to exaggerate the disadvantages of the Trendelenburg position during operation, and neither in this chapter nor elsewhere do we find any reference to the advantages of the semi-upright position after operation for general peritoneal infection. After operation for perforation of gastric ulcer it is advised that the pelvis be raised and the head lowered, although a pelvic drain is recommended. The second chapter is concerned with operations on the liver, gall bladder, and bile ducts, and of course contains many things that are new. The indications for cholecystectomy and the operation itself are described in a very instructive manner. The ten succeeding chapters deal with the abdominal viscera proper—the stomach, pancreas, intestines (including hernia), and the spleen. Throughout they reflect the best modern surgical opinion, and are marked by moderate views lucidly expressed. The author is at the same time quite definite in his directions—as, for example, in his discussion of operation in acute appendicitis. In describing the methods of dealing with the sac in inguinal hernia, Kocher's invagination method—which has much to recommend it—is not mentioned. A description of four gynaecological operations follows this part, and then those on the genito-urinary system. Mr. Hutchinson speaks with some favour of partial bladder resection for cancer; we are glad to meet with such an opinion, as until recently statistics have shown discouraging results. The four final chapters are on rectal operations. The volume gives throughout an eminently sound exposition of principles and practice, and surgeons may confidently commit themselves to its guidance.

BIOCHEMISTRY.

WE have received two volumes of the valuable textbook of biochemical methods, which Professor ABERHALDEN is editing.[3] The second part of Volume II completes the discussion of the products of protein hydrolysis, and deals further with amino-acids and polypeptides, and the synthesis of the latter, which synthesis in the hands of Emil Fischer and his pupils is leading us on towards the elucidation of protein structure. The next part of the work treats of nucleic acid and its decomposition products, and the purin bases of plant origin, caffein, etc., and then of haematin and its derivatives, bile pigments, chlorophyll, and its derivatives, and animal pigments in general. Then comes a chapter on the lipoids of nerve matter. This is followed by a very interesting article by Professor St. Faust on poisons of animal origin, including the discussion of adrenalin and bile acids, of the poisons of snakes, lizards, amphibia, fish, scorpions, spiders, bees, ants, beetles, parasitic worms, jelly fish, etc. Next, Professor J. Schmidt discusses the methods of preparation of alkaloids, and then we have a full treatment of saponins, etherial oils, and tannins. The end of this volume is occupied by articles by Dr. Ackermann on the isolation of poisonous bases produced in putrefaction and in pathogenic bacteria, and on the bases which may be extracted out of muscle—creatin, carnin, etc. Finally, there is an addendum on the quantitative analysis of glycogen by Professor Pflüger. The first half of the third volume deals with the preparation of ferments (Professor Michaelis) and the qualitative and quantitative investigation of their action; next with the operative technique used in the study of digestion and resorption (Professor London), and the methods of studying the products of digestion (Dr. E. Zunz). The last part of this volume is devoted to the study of the stages of metabolism by the methods of artificial circulation of "surviving organs," preparation and study of organ extracts, of autolysis, of the ferments engaged in carbohydrate, fat, and protein metabolism, and the respiration of the tissues. Each section is dealt with by a specialist, and the whole work is of the greatest value to the research workers in biochemical problems. The extent of the work is shown by the fact that these two parts contain some 1,500 pages. The technical methods are illustrated by excellent figures of apparatus.

Professor HALLIBURTON has issued the seventh edition of his *Essentials of Chemical Physiology*.[4] The popularity of this work is justified by the judicious selection of the material and by the simplicity and clearness of the author's style. In this edition we find a new lesson added "on some typical organic compounds which will serve to remind the student of the properties and reactions of examples of a few important groups of organic substances, a knowledge of which is absolutely essential for the intelligent comprehension of physiological proximate principles." The substances dealt with in the experimental exercises in this chapter are ethyl alcohol, acetaldehyde, formic acid, acetic acid, oxalic acid, and phenol; while in the theoretical part a short account is given of types of the hydrocarbons, aldehydes and ketones, the fatty acids, ethers, esters, amino acids, and aromatic compounds. This lesson will be very helpful to the student. In the lesson on fats we note a section added on the lipoids, with an account of cholesterine, on which much work has recently been done, so that it no longer is left to figure as a mere word in the student's mind. In rearranging the lessons on respiration the author has had the help of Mr. J. Barcroft. Loewy's aërotonometer is figured therein, a simple and ingenious apparatus for determining the tension of the blood gases. The vacuum pump is relegated to the appendix, and the chemical method of blood-gas analysis of Haldane and Barcroft is given in its place, and Barcroft's table of the respiration of some of the chief organs is added to the section on tissue respiration. Some practical exercises on respiration are appended to this chapter, including the Haldane-Priestley method of collecting for analysis the alveolar air. To the appendix has been added a short but excellent account of the properties of colloids and colloidal solutions. The book has

[2] *A Manual of Operative Surgery*. By Sir Frederick Treves and Jonathan Hutchinson. Third edition. Vol. i. London: Cassell and Co., Limited. 1909. (Med. 8vo, pp. 787; 17 plates; 193 figs. 18s.)

[3] *Handbuch der Biochemischen Arbeitsmethoden*. Herausgegeben von Prof. Emil Abderhalden. II Band, 2 Hälfte, and III Band, 1 Hälfte. Berlin: Urban and Schwarzenberg. 1910. (Sup. roy. 8vo, II Bd., 2 Hälfte, pp. 497–1101 + xxviii, Abb. 11; III Bd., 1 Hälfte, pp. 478, Abb. 121. Mk.24 = Kr.28.80, and Mk.18 = Kr.60 respectively.)

[4] *Essentials of Chemical Physiology*. By Professor Halliburton F.R.S. Seventh edition. London: Longmans, Green, and Co. 1909 (Demy 8vo, pp. 292 71 figures. 4s. 6d.)

been kept within its former bounds by the leaving out of antiquated matter, and we suggest that in the appendix only one form of haemocytometer, the Thoma Zeiss, and one form of haemoglobinometer, the Haldane-Gowers, need be given, and thus some valuable space saved for other matter.

PATHOLOGICAL HANDBOOKS.

Medical Morbid Anatomy and Pathology, by Drs. THURSFIELD and BRANSON,[5] is a guide to the study of museum specimens illustrating medical diseases. The book will be especially useful to students of St. Bartholomew's Hospital, the school to which the authors belong, as the descriptions have direct reference to specimens contained in the extremely valuable and comprehensive museum of that hospital, and the catalogue numbers of typical examples in the collection are given at the margin of the text. The book opens with an account of inflammatory and degenerative changes which is meagre and cannot be regarded as suitable for any more valuable purpose than supplying the unambitious student with the very minimum of knowledge requisite for scraping through his examination. This is followed by a commonsense and eminently useful classification of tumours (after Dr. Andrewes), and a good general account of the commoner parasitic worms. After these matters, which occupy the introductory chapter, have been disposed of, the various diseases of medical interest are treated in succession, the descriptions of morbid anatomy being supplemented by copious references to the museum catalogue. The authors write with a sound practical knowledge of their work, and the lucid way in which they group their facts shows that they are experienced demonstrators and know the art of fixing essentials upon the student's mind. The treatment of the heart, pericardium, lungs, and liver, may be mentioned as being particularly good, and indeed evidence of care and accuracy is to be found in the descriptions of all the organs and tissues. The book may be recommended as a safe guide, well calculated to help the student to acquire the knowledge of morbid specimens demanded of him in the medical part of his examination.

The popularity of Professor KAUFMANN'S special pathological anatomy[6] is shown by the appearance of a fifth edition two years after the publication of the fourth It is a very bulky volume, containing nearly fourteen hundred pages, and on this account is hardly suitable as a first textbook for the medical student, but the mass of detail which it contains renders it valuable for all who desire to consult a work of reference. Its title sufficiently defines its scope as a systematic treatise on the macroscopic and microscopic pathology of the various organs of the body. Though the text is brought up to date by incorporation of references to recent literature, the general character of the book is very much on old-fashioned lines, and does not possess the attractiveness of many recent publications. If we want, for example, to turn up a point about the pathology of the blood, we find here sundry details together with a few very crude, uncoloured illustrations in the text. Most of us would prefer to appeal to one of the special works on haematology, or to an article in a good English textbook of pathology, where the details of modern blood-staining methods are reproduced with the highest skill of the lithographer's art. Similarly, if we turn to the section on the nervous system, and want to find out something about tracts of degeneration in the spinal cord, the descriptions, though accurate, and the diagrammatic sketches, though useful, do not satisfy us. We are accustomed nowadays to find such lesions demonstrated by faithful reproductions of what is actually seen under the microscope. But while the book as a whole suffers from this lack of attractiveness, we wish it to be understood that in raising this criticism we have no intention of disparaging the value of Professor Kaufmann's work as a laborious compilation of accurate data.

[5] *Medical Morbid Anatomy and Pathology.* By Hugh Thursfield, M.D., F.R.C.P., and William P. S. Branson, M.D., M.R.C.P. London: H. K Lewis. 1909. (Crown 8vo, pp. 270. 6s.)

[6] *Lehrbuch der speziellen pathologischen Anatomie.* Von Dr. Eduard Kaufmann. Fünfte Auflage. Berlin: Georg Reimer. 1909. (Sup. roy. 8vo, pp. 1394; 686 illustrations in the text and two plates. M. 23.)

In writing his useful little pocket-book guide to the doctrine of immunity[7] Dr. FRIEDEMANN might with advantage have omitted the first thirty-two pages, which are devoted to the theoretical part of the subject. It is impossible in such brief space to present anything like a satisfactory digest of the numerous and complicated theories concerning the many and diverse subjects comprised under the term "immunity." The rest of the book, which is concerned with practical technique, is much better, and may interest many workers on immunity who find it convenient to carry about in their pocket a brief digest of the laboratory methods and formulae which have been adopted by important authorities. The descriptions deal with work on haemolysins, agglutins, precipitins, and kindred subjects; they also include accounts of the serum diagnosis of syphilis and the determination of the opsonic index.

Dr. PROWAZEK has brought out a second and revised edition of his pocket-book of microscopic technique for the investigation of protozoa.[8] His description of staining methods is concise and practical, and has been carefully brought up to date. The book may be recommended as a useful little laboratory guide for those who are engaged in examining the varieties of protozoa commonly met with in tropical countries. At the end of the volume is a short description of staining methods for demonstrating the peculiar bodies met with in vaccinia and variola, rabies, and other diseases attributable to infective organisms the nature of which is obscure.

In his *Aids to Microscopic Diagnosis*[9] Captain E. B. KNOX seeks to supply students preparing for examinations with a compact and brief handbook suitable for revision purposes. We note that the volume pays particular attention to tropical diseases, a feature which will prove attractive to those preparing for medical work in the army. The diagnosis both of tropical diseases and of diseases common to this country is carefully described, and we find that more information is provided than is usually to be found in works of such small compass. The book ought to prove distinctly useful for the purpose for which it is intended.

THE PROBLEMS OF LIFE ASSURANCE.

ALTHOUGH every educated man knows that an actuary is a scientific worker upon the trustworthiness of whose results the stability of modern systems of life assurance depends, few have any clear idea of the real nature of his work. The sphere of medical practice has, however, enough points of contact with that of the expert in life assurance for it to be desirable that knowledge should be made accessible to members of our profession. The standard treatises on the theory of life assurances are, we think, without exception, of so technical a character as to be unintelligible to the majority of medical men who do not regard mathematics as a recreation. Mr. WHITTALL'S little book, *An Elementary Lecture on the Theory of Life Assurance*,[10] should, therefore, command a large public. The way in which the price of an annuity is calculated, the nature and use of a life table, the calculation of premiums, some methods of valuing the assets and liabilities of an insurance office, the determination of surrender values, and the special points to be considered in connexion with endowment assurances, are all clearly explained. No ordinarily intelligent person with a fourth-form knowledge of algebra and arithmetic will find any difficulty in understanding the book. There are numerous problems connected with assurance which have special interest for the medical statistician. Thus, a satisfactory system of "loading" lives must depend on a statistically adequate knowledge of the changes in case-mortality when the incidence of the more important diseases is

[7] *Taschenbuch der Immunitätslehre: mit besonderer Berücksichtigung der Technik.* Von Dr. Ulrich Friedemann. Leipzig: Johann Ambrosius Barth. 1910. (Fcap. 8vo, pp. 146. M.4.)

[8] *Taschenbuch der mikroskopischen Technik der Protistenuntersuchung.* Von Dr. S. von Prowazek. Zweite Auflage. Leipzig: J. A. Barth. 1909. (Fcap. 8vo, pp. 87. M 2.50.)

[9] *Aids to Microscopic Diagnosis (Bacterial and Parasitic Diseases).* By Ernest Blake Knox, B.A., M.D., Captain, R.A.M.C. London: Baillière, Tindall and Cox. 1909. (Fcap. 8vo, pp. 163. 2s. 6d.)

[10] *An Elementary Lecture on the Theory of Life Assurance.* By W. J. H. Whittall, F.I.A., F.A.S. Second edition (revised). London: C. and E. Layton. 1909. (Demy 8vo, pp. 43, with tables. 2s. net.)

delayed. This is well known in some important cases—for instance, pulmonary tuberculosis, but it cannot be said that even in this case any really adequate medico-statistical inquiry has been published. It may fairly be hoped that, in view of the growing interest taken in medical statistics, some medical inquirers will turn their attention to these matters. In order to do so profitably a knowledge of actuarial work is necessary; no better introduction to the subject than this pamphlet could be asked for, and we hope it will have the success it deserves.

INFANT FEEDING.

If the subject of infant feeding was neglected in the past, present-day writers have amply atoned for the shortcomings of their predecessors. The literature on the subject has assumed appalling dimensions, and the fear arises that it is being overdone. The third edition of Dr. Eric Pritchard's work on *The Physiological Feeding of Infants*[11] has been rewritten and enlarged, and now contains nearly 500 pages. In the introduction the author sums up a discussion on "Physiological Feeding" as follows: "Physiological feeding may, then, be defined as a system which aims at adapting the food to the digestive, nutritional, and educational requirements of each individual infant." The first two of these objects are the aims of every attempt at infant feeding, however imperfect the means adopted may be. The "educational" requirements, it may be said, are generally forgotten. In dealing with maternal feeding the author lays great stress upon what he terms "test-feeds"—that is, on ascertaining the exact amount of milk consumed by weighing the infant before and after each lactation. That such a test might occasionally be useful is obvious enough, but we would not have thought the advantages claimed for such "test-feeds" as a routine practice were sufficient to compensate mothers for the trouble involved in weighing their babies before and after each lactation, both day and night, as the author suggests. In regard to the artificial feeding of infants Dr. Pritchard is a firm believer in the percentage methods advocated by Rotch and others. In the interval since the publication of the last edition of his work percentage methods have not gained in favour, but on the contrary have been largely abandoned as being unnecessarily intricate and complicated. On the other hand, the very antithesis to these percentage methods, that of Budin, according to which infants are fed from the start with whole sterilized milk, the quantity given being adapted to the age and weight of the child, is finding increasing support. Moreover, Dr. Pritchard's own methods are not in accordance with those of the system he advocates. He gives very numerous diets with their supposed percentage compositions, along with the various quantities of milk, cream, milk sugar, etc., for their preparation. Now, for his percentages to be approximately correct, milk should be a substance of staple and unvarying composition. Careful analyses of the milk from one of the largest dairy companies show that the fat varies from a little over 3 to nearly 5 per cent., according to the time of the year and the hour of milking. On many days the afternoon milk contains nearly a third as much fat again as the morning supply. The percentage of the total solids, again, varies almost as widely as the fat. These considerations show that, if Dr. Pritchard's directions be carried out, the resulting percentage composition of the diet must in numerous instances, if not most, be different, often very different, from what he supposes or intends. Any successes, then, gained from his directions go to prove that percentage methods are unnecessary. The author seems overfond of minutiae, for, in addition to these numerous elaborate directions for the dieting of healthy infants, he gives special rules for "gouty infants," "infants born of tuberculous parents," "infants who have developed tuberculous lesions," "infants of alcoholic parents," "syphilitic infants," infants with "functional nervous disorders," infants with "hyperchlorhydria," and for infants prematurely born at "the twenty-eighth week," "the twenty-ninth week," "the thirty-second week," and the "thirty-sixth week or later." This list, indeed, is far from exhausting the cases and conditions for which Dr. Pritchard deems special instructions for dieting advisable. Whilst there is much that is excellent in his writings on such subjects as the physiology of infantile digestion, and the composition and care of milk, the bulk of his work would seem to us a marked example of what Dingwall-Fordyce, writing on infantile feeding, has described as "scientific theorizing carried to an extreme."

The merits of sixpenny books on medical subjects are usually commensurate with their modest price, but an exception to this rule is Dr. Johnston's little work, *Health in the Home*,[12] which contains an unexpected amount of useful and accurate information. Although it is well written, we would have thought simpler language would, perhaps, have more easily conveyed the author's meaning to the Lancashire mothers and nurses for whom the work is primarily intended. As a whole, the advice contained is sensible and to the point. In a work, however, intended for lay readers it would have been well to have omitted two or three of the prescriptions, such as the one for a lotion for alopecia areata containing blistering fluid and strong ammonia. Throughout his pages are glimpses of a "pawky" humour suggestive of the author's birthplace having been north of the Tweed. In the hands of the right people his little work should prove of service.

It might well be deemed a piece of presumption for a lay person to write a work on the feeding of children, intended not merely for mothers and nurses, but for physicians as well. In her little book, *How to Feed Children*,[13] however, Mrs. Hogan is careful to insist that her object is not to supplant the physician, but to assist in the carrying out of his instructions. Part of the section on infant feeding is rightly devoted to emphasizing the extreme importance of the subject, and the rest to some of the details involved in the percentage methods of Rotch and others. There are separate chapters on such subjects as cereals, bread, biscuits, and cake; broths and soups; meat, eggs, fish, oysters, etc.; vegetables, fruit, etc.; laxative foods; fat in diet; and several others. Chapter XIII is occupied with dietaries and menus for children from the age of 12 months to 5 or 6 years. In Chapter XVI there is a long list of recipes for the preparation of articles of diet suitable for infants and children. That the book has proved eminently useful is evidenced by the fact that it has reached a ninth edition in the course of a dozen years.

NOTES ON BOOKS.

Dr. Marie Bra, in his monograph on cultures *in vitro* of cancer cells,[14] argues that cancer is an infection determined by a micro-organism of vegetable nature which implants itself in the animal organism and then "by a species of mimicry assumes the different aspects of the tissue cells at the expense of which it lives and which it replaces." He claims that he has succeeded in cultivating the cancer parasite on artificial media, and reproduces remarkable illustrations of the resultant growths. We prefer to await corroborative evidence from other sources before pronouncing an opinion upon Dr. Bra's work.

The volume by Dr. Ronald Campbell Macfie upon *Air and Health*[15] is readable and interesting. As a synopsis of much that is known in regard to air and its influence upon health it may be commended to those who wish to make themselves familiar with the general aspect of an extensive subject which cannot possibly be dealt with in detail within the compass of any one volume of moderate size. This is specially true of Dr. Macfie's book, because he does not confine himself to air and its influence upon health only, but also considers it in its therapeutic capacity as a cure for disease. His volume would, in our opinion, have been improved by the omission of the last chapter, on the "open-air treatment of consumption and open-air schools"; it is too discursive to be of practical use to

[11] *The Physiological Feeding of Infants.* By Eric Pritchard, M.A., M.D.Oxon., M.R.C.P. Third edition. London: Henry Kimpton; and Glasgow: A. Stenhouse. 1909. (Demy 8vo, pp. 485. 7s. 6d.)

[12] *Health in the Home: Children and their Ailments.* By J. Johnston M.D.Edin. London and Manchester: John Heywood, Limited. 1909. (Demy 8vo, pp. 163. 6d.)

[13] *How to Feed Children: a Manual for Mothers, Nurses, and Physicians.* By Louise E. Hogan. Ninth edition. Philadelphia: J. B. Lippincott Company. 1909. (Post 8vo, pp. 257. 5s.)

[14] *Cultures in vitro des cellules cancéreuses* Par le Dr. Marie Bra. Paris: A. Poinat. 1909. (Demy 4to, pp. 57, 79 figures. Fr.5.)

[15] *Air and Health.* By Ronald Campbell Macfie, M.A., M.B., C.M. The New Library of Medicine. Edited by C. W. Saleeby, M.D., F.R.S.E. London: Methuen and Co. 1909. (Demy 8vo, pp. 353. 7s. 6d.)

medical men, and is at the same time more technical than the general public care for. Dr. Macfie has written his book for the New Library of Medicine, but its contents are familiar to every practitioner who has read a book on public health; on the other hand, it is, except for the last chapter, well suited for the general public, who will find in the story it unfolds reliable information upon the physical conditions of air and their relationship to health, upon the impurities with which the atmosphere is apt to become charged, upon the difficult question of ventilation, and upon the still more difficult problem of climate. The author's views on climate are sound, and so clearly formulated that they offer a working scheme whereby may be gained a rough knowledge of the factors which go to make one place bracing and another relaxing, one place more desirable than another under certain conditions and at certain seasons of the year. The reader will also learn something of the principles by which he should be guided in the choice of a spot at which to enjoy that "change of air" which seems to possess such mysterious powers of reinvigoration, and which we all regard as a periodic necessity to the strenuous life of the present day.

The authoress of *When No Man Pursueth*,[16] Mrs. BELLOC LOWNDES, is a keen psychologist and a decided artist in the portrayal of character. It is in this respect rather than plot-weaving that her strength as a novel-writer lies. Without any obvious effort and in remarkably few words she manages to make each of her characters, their environment, their difficulties, and their temptations, stand out clearly, and their actions and conduct, whether wise or foolish, good or bad, always seem the natural outcome thereof. The result is that her books are always interesting, though their tone is sometimes unpleasant. To the present volume no such exception can be taken, there being a normal admixture of quite likeable people among her characters. Among these the three principal men ostensibly belong to the medical profession, but one, the pleasant-spoken, plausible villain of the piece, appropriately hails from some unknown place abroad. His wife is a patient of the two other doctors, and his medical knowledge, whencesoever derived, is sufficient to enable him to create for them a very pretty problem in medical ethics and clinical diagnosis. It is on the fashion in which the two English medical men respectively deal with the matter that the whole plot turns. It is neatly worked out, and the interest is sustained from beginning to end of the volume.

The purpose of SWANSON'S *Handbook of Scotch Sanitary Law*,[17] the third edition of which has just been issued, is, as the preface states, to provide in a concise form a synopsis of the various sanitary laws of Scotland. It is intended for the use of students preparing for the sanitary inspectors' examinations. Blank leaves are provided for notes. In the sixty odd pages which the handbook covers it presents in a condensed form the principal features of the Public Health Acts as applying to Scotland, defining the terms used under the different clauses. The author refers in figures within brackets to the sections of the various Acts mentioned in the text. On the whole, this small book will be useful to students going up for the sanitary examination; the principal clauses of the various Acts are clearly stated, and should efficiently serve the purpose intended. One fact is brought out in perusing the handbook—namely, the number of different Acts bearing on matters connected with public health and sanitation; besides the main Act there are no less than sixteen other Acts dealing with questions which should for purposes of administration be embodied in a single Act. Evidently the writer hails from south of the Tweed, thus accounting for the word "Scotch" instead of the more correct form "Scottish" on the title page.

The mode of dealing with a subject by the catechism method of definite question and answer has not very much to recommend it. At its best it can only be used to supplement the ordinary form of textbook. There are some, however, to whom this means of acquiring knowledge or of fixing that already acquired must appeal, for the series on *Public Health*, by Dr. W. ROBERTSON, has now reached a second edition.[18] The subjects dealt with are: I, *Water*; II, *Air and Ventilation, Warming, Lighting, Climate*; III, *Sewage and its Treatment*; IV, *Vital Statistics, Dwellings, Meteorology*; V, *Epidemiology, Food, Burial, Water-Closets, Disinfectants, Heating, Hospitals*. The author has put the necessary questions in a very concise and at times a very telling form, and the answers are quite in accordance with the views held by teachers of public health at the present day. Among the few omissions is one in the section dealing with earth closets, where mention might appropriately have been made of the bacterial effect of surface earth upon excrement.

[16] *When No Man Pursueth*. By Mrs Belloc Lowndes. London: Heinemann and Co. (Post 8vo, pp. 352 Price 6s.)

[17] *Handbook of Scotch Sanitary Law* Third edition. By Thos. W. Swanson Assoc. R. Sanit. Institute, Mem. San. Assoc. Cert., Victoria University. London: Sanitary Publishing Co., Ltd. (Cr. 8vo, pp. 69. 2s. 6d.)

[18] *Public Health*. By W. Robertson, M.D., D.P.H. *The Catechism Series*. Parts I, II, III, IV, and V. Second edition. Edinburgh: E. and S. Livingstone. (Cr. 8vo, pp. 49, 53, 56, 50, and 42 respectively. 1s. each; 5 parts, bound, 4s. 6d.)

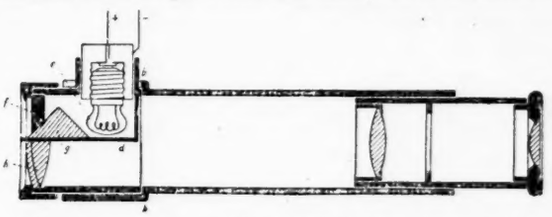
MEDICAL AND SURGICAL APPLIANCES.

Projection Lanterns.

A USEFUL form of projecting lantern is the subject of a catalogue issued by the Bausch and Lomb Optical Company (19, Thavies Inn, E.C.). The principal feature of instruments of the type described is their rapid convertibility, and with the minimum of extra adjustment or loss of time they can be used for projecting not only ordinary lantern slides, but also opaque objects, written and printed matter, and photomicrographs. We have had the opportunity of witnessing a demonstration of these lanterns, and the ease with which they are worked, and the remarkable clearness of the picture thrown on the screen, even in a room only semi-darkened, clearly entitle them to favour. In its more elaborate form the instrument, which bears the trade name of "Balopticon," is suitable for college and educational use; while the portable pattern, weighing only some 20 lb. in its case, has obvious uses for the travelling lecturer.

Ophthalmo-fundoscope.

Some years ago nearly every one who aspired to become an ophthalmic surgeon seemed to think it necessary to introduce an ophthalmoscope which should henceforth bear his name, and many and varied were the modifications devised of the instrument Helmholtz introduced in 1851. In principle these were all identical, though it might be more convenient to use one than another. The ophthalmo-fundoscope which has lately been invented by



Dr. Fritz Baum, of the Royal University of Rome, is a totally different instrument. It is shaped like a telescope, and the observer looks through it as he does when using that instrument; it is, however, only 10 cm. long. In it is a small electric lamp with a prism and a series of lenses. The observer must focus the instrument for his own sight by using it exactly like a telescope, and observing some distant object. As soon as this is done the light is turned on, and one end is placed close to the patient's cornea, while the observer looks through the other. The fundus of the observed eye is then seen. To obtain a magnification of from 10 to 15 diameters the lower portion of the instrument is detached, and the objective lens is removed, with the result that an erect image of the fundus is obtained without any light reflexes from the cornea to interfere with the clear view of the picture. It is quite easy for a novice to see the fundus in this way, without the necessity for the eye being put under the influence of a mydriatic. In order to obtain higher magnifications the lens is inserted and the instrument again made complete, when by using it in a similar manner an enlargement of some 70 times is obtained, though naturally when such high powers are used only a very small portion of the fundus is visible at one time, and the instrument must be held very steady; further, it is desirable that the patient's pupil should be dilated. A disc containing lenses is also attached, and by its means a measure of the patient's refraction is obtainable. It is thus seen that this instrument may be used for all purposes for which the ordinary ophthalmoscope is applicable, but in addition it enables the fundus to be very much more magnified without the disturbance caused by corneal reflexes. It may be used by any one in broad daylight, and with little or no previous practice. It is small enough to be easily carried about, and a patient's eyes may be examined when he is lying down or in any other position. Mr. K. Schall, of 75, New Cavendish Street, W., is the agent for the ophthalmo-fundoscope in England. Its price is £6 15s., and with extra attachments £7 5s.

THE HOSPITAL ALMONERS' COUNCIL.

The Hospital Almoners' Council exists to provide for the training and provision of hospital almoners. It has its head quarters at Denison House, 296, Vauxhall Bridge Road, in offices lent by the Charity Organization Society, whose secretary, Dr. C. S. Loch, brought the council into existence. It has now been at work for some two years, and having emerged successfully from the experimental stage a new constitution has been drawn up with the idea of making it more representative of the hospitals and various interests involved.

The objects to be kept in view are described as follows in a report of the work done so far; they are:

1. To select and arrange for the training of suitable candidates for posts as hospital almoners.
2. To recommend trained almoners to hospital authorities.
3. To grant certificates to such persons and to keep a register of their names.
4. Generally to take any steps which may be desirable for extending and developing the work of hospital almoners.

The duties which ought to be performed by such persons are described in the following terms:

1. To interview new patients after they have been seen by a member of the staff, and, with the assistance of visitors and charitable societies, to make adequate inquiries.
2. To arrange for the provision of surgical instruments, convalescent treatment, etc., recommended by the medical staff, and, in cases where the patients are unable to pay, to secure assistance from the Samaritan Fund of the hospital or other charitable agency.
3. To ensure that the home conditions of the patients should be suitable, so far as possible, and that the directions of the physicians or surgeons as to diet, fresh air, exercise, or rest should be carried out.
4. To encourage thrift and urge the necessity of providing for the future by joining clubs and friendly societies.

The council has had a very large number of applications for training, but the selection of really suitable candidates has not been easy. The successful supervision of an out-patient department, the establishment of satisfactory relations with charitable bodies outside the hospital, the maintenance of a good understanding with the managers and staff of the hospital itself, call for a variety of qualities not always found in combination. Every candidate for training not obviously unfit for the work is sent to a hospital to learn for herself what the actual work of an almoner is. If after this experience she still desires to be trained, she is interviewed by the council, which, if it approves of her, then makes arrangements for her training. The latter is divided into three parts:

1. Instruction in charitable work of a general nature, including interviewing applicants, visits among the homes of the poor, the business routine of an office, correspondence, keeping accounts, etc., practical instruction in the work of the Poor Law, visits to institutions, and experience of the various agencies which exist in London for the distribution of relief and for the assistance of those in distress.
2. Theoretical instruction by means of lectures in social subjects, elementary hygiene, and physiology.
3. A course of training in an out-patient department under an experienced hospital almoner.

The first part of the training is carried out in a district office of the Charity Organization Society, where every facility is offered the candidate for acquiring a thorough training in social work. The second, or theoretical, part of the training is carried on concurrently with the first by lecturers and tutors of the School of Sociology. The age of candidates at the date of their acceptance for training must be less than 35 years of age, and the training usually lasts from twelve to eighteen months. Its continuance is conditional on the reports received from time to time as to the candidate's work. The council has already supplied several London hospitals with almoners trained under its auspices, and seems to anticipate that the demand for persons whose suitability and knowledge of their work it is prepared to certify will become large. The secretary of the council is Mr. E. S. Kemp, who will see by appointment any one interested in the work and desirous of further information respecting it.

The Good Service reward of £100 a year, vacant by Surgeon-General Hinde's death recently, has been awarded to Surgeon-General G. J. H. Evatt, C.B., than whom no medical officer has a better claim.

SICKNESS AND INVALIDITY INSURANCE.

The reference to the Royal Commission on the Poor Law included two main subjects—first the working of the Poor Laws, and second, the methods outside the Poor Law of meeting distress arising from want of employment. The Commission found itself unable to do justice to either of these subjects without investigating distress arising not only from unemployment but from accident, sickness invalidity, and old age, and this involved inquiry into all methods—municipal, charitable, and provident—used in this or other countries to meet distress.

Of the provident methods, insurance was of course the most obvious, and for the information of the Commission the Board of Trade presented a memorandum, which has not yet been published, dealing with systems of insurance both at home and in foreign countries. After fully considering the foreign systems, the Commission decided that none of them could be recommended for adoption in England, either for unemployment or for sickness and invalidity.

Unemployment insurance is only indirectly related to the subject to be discussed here, but it may be useful to state the general conclusions of the Commission. The Majority Report states that practieally the only form of unemployment insurance in England is by means of trade union "unemployed benefit," but the friendly societies give a considerable amount of "travelling benefit" and charitable grants to members, which are occasionally used for the relief of unemployment not due to sickness. Though the Majority do not recommend any existing system for general adoption, the subject is considered so important as to justify under specified conditions contributions from public funds to existing trade organizations or to institutions of a similar character which may be brought into existence. The difficulties of the subject were, however, felt to be so great that the Commission recommended the appointment of a smaller commission or departmental committee to frame a scheme to form a part of a permanent system of public assistance for the able bodied. The Minority Commissioners also found themselves unable to recommend any plan of Government or compulsory insurance against unemployment, but they favoured the Ghent system, and in the Minority Report Bill, which Sir Robert Price has introduced in the House of Commons under the title of the Prevention of Destitution Bill, the new Minister for Labour would be empowered to grant subsidies to any society such as a trade union providing, by way of insurance, payments to persons out of employment. The grant would not exceed "one-half the sum expended by the society during the last preceding year in payments to persons out of employment otherwise than in consequence of any labour dispute," and the aggregate would not exceed £500,000 for each of the first three years, and "thereafter such sum as may from time to time be voted by Parliament."

The close connexion between unemployment and sickness insurance is shown in a not very creditable way in some parts of Germany, where the absence of unemployment insurance has had the effect of causing a great amount of malingering among men insured for sickness. It is stated that the normal sickness in the sickness insurance associations at Cologne was in normal times 2 to 2½ per cent. of the members, but as soon as the "out-of-work season" began the sickness-rate rose to as much as 4 or 4½ per cent. In a high proportion of the cases the workmen complain of "rheumatism," as the men have come to believe that its existence cannot definitely be disproved by the doctors. There seems, therefore, some reason to think that sickness insurance is often used to support men out of work through bad trade.

In England there is, of course, strictly speaking, no legally compulsory insurance, but there is a practical compulsion on employers to make some provision against claims under the Workmen's Compensation Act, which has largely superseded the Employers' Liability Act. The Act provides that where there is total or partial incapacity for work as the result of an accident the employer shall either pay a lump sum or a weekly payment during the incapacity, amounting to not over 50 per cent. of the average weekly earnings during the previous year; if death results from the injury there is payable to the dependants a sum equal to the earnings in the employment of the same employer

during the previous three years, or a sum of £150, whichever is the larger, but not exceeding £350 in any case; for partial dependants such smaller sum as may be agreed or determined on. No compensation is payable if "serious or wilful misconduct" is proved. Though there is no subvention from the State, disputes are tried in the Arbitration courts or in the ordinary courts at reduced costs. Most employers insure against this liability with one of the many companies which seek business of this kind, but it appears that many of the larger firms are finding it cheaper to set aside a reserve fund of their own as they can make a fairly accurate calculation of the average yearly amount of claims and thus save the administration costs of the insurance societies. Again, a few of the large firms and corporations are beginning to set up schemes of their own in the form of workmen's clubs, towards which both the employer and the workmen contribute. The employers are, of course, liable as before for the full compensation provided by the Act, but their subscription to the clubs is intended to provide further benefits over and above those provided by the Act, such as medical attendance, extra sick pay, old age grants, and the waiver of the condition as to serious or wilful misconduct. In one such club the employers contribute 3d. a week for each man, and the men contribute 2d. a week; this allows benefits in excess of the maximum given under the Act.

Again, in considering the amount of subsidy that might be expected from the State to sickness and invalidity insurance, it should be remembered that while in Germany and several other countries the employers and the employed each contribute half the insurance premium towards old age pensions, the State only adding a subsidy to each pension granted, in the United Kingdom the central Government finds the whole of the old age pensions without any contribution from employers or employed. It is calculated that the cost to the State for the year 1909 will be over 8½ million sterling. The pension is given to all over 70 years of age whose weekly income is 12s. or less. Those who have £21 a year—that is 8s. a week—receive a pension of 5s. a week to make a total income of 13s.; while those who have between £21 and £31 10s. receive a pension of from 1s. to 4s., so that their total income may reach 13s. in all. Receipt of poor relief, other than medical relief, since January, 1908, is a disqualification, though probably this will soon be removed; and a person is disqualified also if it be proved that he has habitually failed to work according to his ability for the maintenance of himself and his dependants. Every effort is made to prevent any connexion between old age pensions and the Poor Law.

With the exceptions above mentioned and the provision of the Poor Law, no responsibility is undertaken by the Government or imposed on employers for the provision of sick pay and invalidity pensions for wage earners; they are left to make provision for themselves by means of self-supporting sick clubs such as the friendly societies. There is, however, a distinct tendency on the part of many municipal corporations to provide outside the Poor Law for all comers free hospital or sanatorium treatment for infectious diseases including tuberculosis. Some corporations would even provide medical treatment for school children, and the recent departmental committee on the Midwives Act recommended that the community should provide medical attendance in serious cases of midwifery for persons who are just above the stage of pauperism, but not able to pay ordinary medical fees. In this and other ways it is being more and more recognized that though it may be the duty of the wage-earners themselves to make what provision they can to prevent future pauperism, many of them are unable without assistance to make satisfactory provision, that charity is too uncertain to depend on, and that either the State or employers ought to come to their assistance. As we shall see, in Germany employers are called on to pay one-third of the premium for sickness insurance, one-half for old age and invalidity insurance, and the whole premium for accident insurance, while the State only gives a subsidy for each invalidity and old age pension that is granted. The total State subsidies in Germany only amounted to a little over 2¼ millions sterling in the year 1905, so that the British Government by its provision for old age pensions contributes not far from four times as much as the German Government. On the other hand, the total contributions from employers in Germany amounted to over 16 millions sterling, more than half of which was for sickness, and invalidity and old age insurance, towards which employers in England contribute nothing at all, except indirectly by taxation for old age pensions.

COMPULSORY INSURANCE IN GERMANY.

The three forms of compulsory insurance in Germany owe their origin to the great socialist movement that began soon after the Franco-German war of 1870. For several years stern repressive measures were employed, but in 1878 there were two successive attempts on the life of the Emperor, and in 1881 Bismarck introduced the first of his insurance schemes for the working classes; this was for accident insurance. The bill was at first rejected, but in November, 1881, Bismarck communicated to the Reichstag a letter from the Emperor William I, in which schemes for accident, sickness, invalidity, and old age insurance were all urged on the attention of the German people. The effect of this letter was very great, and in 1883 the bill making sickness insurance compulsory was passed by a large majority. Compulsory accident insurance followed in 1884 and compulsory invalidity and old age insurance in 1889. The three forms of insurance are kept separate for the obvious reason that employers pay different proportions of the premiums to each insurance. At the same time this separation of the three forms of insurance has often serious disadvantages, and has caused considerable discontent in individual cases.

Sickness Insurance.

The law of 1883, with its later modifications of 1893, makes insurance for sickness compulsory on all persons over 16 years of age earning under 2,000 marks (about £98) a year who are employed in mines, quarries, factories, building operations, mechanical trades, in the office of a lawyer, in establishments where steam or other motors are in use, in post and telegraph offices, and in the administration of the army and navy. It may also be extended by communal statute to those engaged in agriculture and domestic occupations, and to persons temporarily engaged. Persons in business on their own account are under no compulsion, but those not included in the above list whose incomes are below 2,000 marks may voluntarily join the insurance, and it was certainly intended ultimately to extend it to all workmen and workwomen.

Organization.

The insurance is carried out by means of local organizations based on the principle of mutual help and self-government, the idea being that local organizations can provide relief most promptly, though to meet the case of men who may remove from one place to another there are certain clubs with intercommunal organization. Miners are compelled to belong to their own associations, but other persons may join any legally recognized association. The employer is bound to give notice to the association in his district best suited to his trade of every workman he engages or dismisses unless the workman proves by a card of membership that he is a member of a friendly society that provides the legally recognized minimum benefits. The employer deducts the workman's contribution from his wages, adds his own share, and pays both into the club, and the workman is *ipso facto* a member. In the year 1905 the total number of sick insurance associations was about 22,868; of these, 21,356 were compulsory clubs and 1,512 voluntary. Persons compulsorily insured for sickness numbered 11,008,000, and those voluntarily insured 855,000, a total of nearly 12,000,000. The population of Germany was about 60 million, and it was calculated that about 15 million of these could be called wage-earners.

The following are the associations recognized by statute:

1. *Gemeinde kranken versicherung* (communal—district or township—organizations). These are not strictly associations, but are a part of the communal administration managed by the town authorities, though the funds are kept separate. They comprise all persons under compulsion to be insured who have not joined another association. It is anticipated that the communal organizations will be extended in the future, especially

if the three forms of insurance are in any way consolidated.

2. *Ortskrankenkassen* (local sick associations). These are the most important of all, as they comprise over 40 per cent. of the insured, and with them are often affiliated some of the other associations for workers in factories, building trades, etc. Their management is very elastic, and the members enjoy a large amount of freedom.

3. *Betriebskrankenkassen* (factory sick associations). Employers of over fifty men may form associations of their own, and if their trade is a risky one may be compelled to do so in order that the risks may be thrown as far as possible on the group to which the risks are peculiar, for, as will be seen further on, the accident insurance and the sickness insurance are closely connected. Nearly a quarter of the total number insured belong to the factory associations.

4. *Baukrankenkassen* (building sick associations) are for workers on roads, railways, canals, and buildings. Employers are here put under special obligations, as their workmen are often engaged in dangerous work, and the commune may compel an employer to form such an association.

5. *Innungskrankenkassen* (guild sick associations) are founded under the trades regulation law by the guilds, which must keep separate funds for insurance and must be under Government supervision.

6. *Knappschaftskassen* (miners' sick associations). These are the oldest form of club, and generally combine other objects with the insurance. All miners must belong to one of them. They are controlled by a committee of employers and workmen, the miners themselves having a voice in the framing of rules.

7. *Hilfkrankenkassen* (free sick associations, friendly societies). For a long time the friendly societies were rather discouraged by the Government as possible centres of political agitation. They must be registered, and are compelled to pay the minimum benefits which the law prescribes. As a matter of fact the free associations often give larger benefits than required by law, in spite of the fact that employers are not compelled to pay any part of the members' subscriptions to them, nor do they get any help from State officials in the way of service. In many of the friendly societies the members have a free choice of doctor, while in many of the local associations the choice is restricted, as it is said that malingering cannot be so well detected where there is free choice of doctor. In other cases a number of the free associations join together for the purpose of getting doctors and medicines more cheaply. The absence of the employers' subscriptions of course puts the friendly societies at a great disadvantage compared with the other associations, and they have by no means the strong position that they have in this country.

Contributions.

Of the total contribution to the insurance, two-thirds is paid by the workpeople and one-third by the employers, the latter being held responsible for the proper amount being paid in, but subtracting the workman's share from his wages. The contributions are regulated, so that in the communal associations the workpeople contribute between one and one and a third per cent. of their wages —that is, about 2½d. in the £. For members of the factory and local associations the contributions are higher, being between 2 and 3 per cent.—that is, from about 5d. to 7d. in the £. Thus, for a labourer getting 24s. a week, the master pays about 3d., and the workman about 6d. a week. There is no subsidy from the State for sick insurance. In the friendly societies the contribution depends on the benefits offered, which must not be below the legal minimum, but, as already stated, there is no assistance from employers.

Benefits.

The benefits during sickness vary above a minimum fixed by law, but normally are about the following:

(*a*) Free medical attendance and medicines (spectacles, trusses, bandages, etc., free).
(*b*) After a *waiting-time* of two days, for a period of twenty-six weeks during incapacity, *either*—
1. Sick pay at home, amounting to half the daily wage on which the contribution was calculated, *or*—
2. Free hospital treatment and half the sick pay for the family.
(*c*) Similar relief for women for six weeks after confinement.
(*d*) In case of death, funeral expenses equal to 20 times the daily wage.

Taking an average over the twenty years 1885 to 1905, it is calculated that out of every £100 paid out in benefits by the sick insurance about £45 was for sick pay, £21 for the doctor, £16 for medicines, etc., £12 for hospitals, £5 for burial, and 25s. for confinements. In the case of the workman earning 24s. a week, who himself pays 6d. while his employer pays 3d., the sick pay would amount to about 12s. a week, and the cost to the insurance fund for medical attendance and medicine averages about 6s., so that the workman gets value in money and attendance equal to 18s. a week; if he dies, funeral money amounting to about £4 is paid. But the figure, 6s., for medical attendance and medicine, must not be misunderstood; it does not mean that the doctor gets anything like this amount, as the amount is arrived at by taking into account the doctor's fees, medicines, dressings, various surgical appliances, and hospital expenses. Medicines are supplied by pharmacists according to prescription, and though the clubs pay fairly reasonable contributions to hospitals. the club doctors are no better off than in England. Every possible advantage is taken of the competition among young, newly qualified medical men who, in order to get a start in practice accept the clubs at absurdly low rates. Seeing that about 20 per cent. of the whole population is insured for medical attendance, the field of private practice has been seriously contracted, and there has been a strong movement on the part of medical men in some towns in favour of free choice of doctor for the insured. The employers have vigorously resisted this on the ground that it encourages malingering. Taking Chemnitz as an example, where there was a list of thirty-two doctors for the workpeople to choose from, it was said on behalf of the employers that the men "always went to the physician who had a good heart rather than a severe sense of duty," and that they chose the doctors who lavishly ordered spirits while they avoided the doctor who was quick in detecting malingering. On the other hand the workmen strongly support the free choice of doctor: "I have had my physician for sixteen years," said one workman, "and now they want to turn him off for a man I never saw in my life before and whom I don't want in my house"; it is alleged that where the choice is restricted to one or two doctors, complaints of harshness and inadequate examination soon arise. In a few towns such as Heidelberg, Leipzig, Jena, and in several of the large Berlin local sick associations, after a severe struggle the medical men have succeeded in getting the free choice of doctor recognized; according to the *Frankfort Gazette* the results in Berlin have been far better than had been expected. On the whole, compulsory insurance in Germany has distinctly worsened the position of private practitioners, but this has largely been owing to the fact that there has been no widespread organization among medical men. The local medical societies have not been strong enough to resist the powerful insurance associations. There is every fear that the same thing might happen in Great Britain were sickness and invalidity insurance made compulsory, as seems likely. It is calculated that out of the total population in Great Britain of 43,000,000, there are 14,000,000 wage-earners, and probably 12,000,000 would have to be insured if the wage limit were the same as in Germany. This would not only lessen the field of private practice but would greatly increase the power of the sick clubs, and it is extremely doubtful whether local medical organizations would be strong enough to insist on adequate terms of remuneration for medical attendance. The experience of the profession in Germany affords a most powerful argument in favour of a centrally controlled medical service under the auspices of the British Medical Association, as was suggested in the leading article of the BRITISH MEDICAL JOURNAL for March 19th.

Statistics of Sick Insurance.

The following statistics of sickness insurance in Germany may be of interest. (One mark equals a little under a shilling):

Population of Germany in 1905 ...	about	60,000,000
Wage workers	,,	15,000,000
Sick clubs	,,	22,868
Total number of persons insured for sickness		11,903,794

Persons in receipt of sickness benefits ...	4,848,610
Total receipts of the sickness insurance	about 288,000,000 mk.
Total expenses ... ... ,,	272,000,000 mk.
Average yearly contribution per person insured	17.21 mk.
Average yearly contribution by employers	5 24 mk.
Average yearly contribution by employed	11.97 mk.

ACCIDENT INSURANCE.

Accident insurance is closely connected in Germany with the other forms of insurance. Compulsory accident insurance dates from 1884, though the law has since been extended and amended. Four classes of occupation are covered—namely, persons engaged in (1) industries or general trades in a wide but well-defined sense, (2) agriculture, (3) building, and (4) marine occupations, always provided that the yearly wages are not above 3,000 marks, roughly about £150. By special rules the insurance may be extended to those having above 3,000 marks and to small employers. The insurance is effected by means of trade associations of employers covering larger or smaller districts, and having considerable powers of self-government; every employer of men liable to be insured for accident is a member of the local association for his special trade. In 1905 there were 114 such associations, in which over 19,000,000 persons were insured.

Contributions.

The workmen make no contribution to accident insurance, the whole premium being levied annually on the employers in proportion to the extent of their business—that is, the amount of wages paid or the number of hands employed, and also according to the risk of accident in the various occupations.

Benefits.

The benefits from accident insurance only begin with the fourteenth week after the accident, the sickness insurance funds being drawn on during the first thirteen weeks. Thus, if the workman is able to resume work before the fourteenth week, the accident insurance is not drawn on at all. The benefits are as follows:

(*a*) Either (1) free medical attendance at home and pension up to 66⅔ per cent. of the year's ordinary earnings; or (2) free hospital with relief to the family up to 60 per cent. of the earnings.
(*b*) If death result from the accident, funeral expenses up to twenty times the daily wage and pension to dependent survivors up to 60 per cent.

It is to be specially noted that all accidents are compensated, even if caused by negligence if it were not intentional, and provided that the resulting incapacity lasts over thirteen weeks. This last proviso has been the cause of much dissatisfaction. It is to be remembered that the accident insurance premium is paid altogether by the employers, but the men get no advantage from it for the slighter accidents not causing incapacity for thirteen weeks. In other words, the sickness insurance towards which the men themselves subscribe two-thirds of the premium, has to bear the brunt of every accident up to thirteen weeks and the accident insurance only after that time; the men complain that this is a trick to throw a great part of the expenses off the masters' fund and in reality that a great part of the compensation is thus caused to fall on the men themselves. The masters, on the other hand, say that the accident insurance is only intended for serious cases, and that it would be intolerable that the masters' fund should be responsible for all sorts of trivial accidents which the men would take no trouble to avoid.

Still further complications are introduced by the invalidity insurance. If a man entitled to the benefits of the invalidity insurance becomes permanently incapacitated as the result of an accident, and if the incapacity is covered by the accident insurance, his contributions to the invalidity insurance are refunded, and his claim for a pension under the invalidity insurance is valid only in so far as it exceeds the allowance granted by the accident insurance. Matters may thus become extremely complicated. An arbitration court is provided to settle disputes, but there is often the greatest dissatisfaction, and there can be no doubt that the inter-relations of the three forms of insurance are in urgent need of revision and consolidation. It must also be evident that the German system would have to be very greatly modified before it could be adapted to existing British systems of legal compensation under the Workmen's Compensation Act and the sick insurance of the friendly societies.

INVALIDITY AND OLD AGE INSURANCE.

Invalidity and old age insurance came into force in 1891 and was extended in 1900. Its object was to secure to wage-earners legal provision for circumstances not covered by the sickness and the accident insurance. Dr. Bulstrode, in his report to the Local Government Board on sanatoriums for consumption, states that compulsory invalidity insurance arose out of the fact that the invalidity statistics showed that of the workers engaged in mining, metallurgy, and building who became invalided before 30 years of age, more than 50 per cent. suffered from pulmonary tuberculosis.

Invalidity insurance is compulsory on all persons over 16 years of age whose yearly earnings are below 2,000 marks (about £98) and who belong to one of the following groups: (*a*) All working for wages in every branch of trade; (*b*) managers, foremen, clerks, apprentices (except to apothecaries), teachers, domestic servants, sailors, and others specifically named.

In addition, small employers having only one assistant, and those engaged in home industries, may be compelled to insure by special order of the Bundesrath, while workmen earning from 2,000 to 3,000 marks (roughly, from £100 to £150), casual workers, and some others may voluntarily join up to their fortieth year; all persons who were formerly under compulsion but have left their situations may continue their insurance. Persons not under compulsion are officials of the State, soldiers, and all who are unable to earn at least one-third of the ordinary average wages of a common labourer, while the Federal Council may also exclude those receiving an accident pension.

Organization.

The insurance offices are formed by the Government, Germany being divided into thirty-one districts, each with an office, and the officers are nominated by the district authorities. The management is by a committee representing employers and employed in equal numbers. There may also be a supervisory council and for each local office a Government commissioner is appointed to attend the meetings and protect the interests of the empire. A reserve fund is formed for each office, and for the settlement of disputes there must be a Board of Arbitration, with a president, who is a State or town official, a vice-president, and two members representing the employers and two the employed. The working expenses are mostly borne by the State, especially the cost of the imperial department, and of paying pensions through the post office.

Contributions.

Employers and employed each pay half of the premium, the employers being responsible, but deducting the workmen's share from wages. The contributions are paid weekly, the employers buying special stamps at the local office, and affixing them to the receipt cards of the insured. Every person insured must have one of these receipt cards which has on it spaces for fifty-two weeks, and when full the card is given in at the office, and the insured gets a certificate for the contributions and a new card for the next year. If the employer prefers, he may pay in the full amount in cash at the office, and the stamps are affixed to the cards by the insurance officials. A good deal of needless irritation has been caused by this necessity for sticking on stamps. Persons not under compulsion, but who join the insurance voluntarily, have to pay the whole of the subscriptions themselves, and presumably get no subsidy from the State towards an annuity. The amount of contribution depends on the annual amount of wages, and the insured are divided into five classes, which, by an arrangement in force up to the end of 1910, contribute as follows, the employer paying half these premiums in each case:

Class 1,	earning up to	£17 10s.,	pays weekly	14 pf.,	roughly about	1½d.
Class 2,	,, ,,	£27 10s.,	,,	20 pf.,	,,	2½d.
Class 3,	,, ,,	£42 10s.,	,,	24 pf.,	,,	3d.
Class 4,	,, ,,	£57 10s.,	,,	30 pf.,	,,	3½d.
Class 5,	,, over	£57 10s.,	,,	36 pf.,		4½d.

Benefits.

The benefits provided are:

1. A State subsidy of 50 marks (about £2 10s.) for each annuity.
2. A pension for invalids, only payable after 200 contributory weeks.
3. An old age pension, only payable after 1,200 contributory weeks.
4. Free medical cure, and, during the cure, relief to the family, in order to prevent invalidity.
5. Reimbursement of contributions:
   (*a*) To women who marry before a pension is payable.
   (*b*) In case of death before a pension is payable, contributions already made are refunded to the survivors.
   (*c*) In case of invalidity caused by accident which is covered by the accident insurance.

The conditions for an old age pension are, first, that the contributions shall have been paid for 1,200 weeks, and, secondly, that the insured shall have attained the age of 70, whether he be infirm or not. The amount of old age pension varies for the different classes, Class 1 receives £5 10s.; Class 2, £7; Class 3, £8 10s.; Class 4, £10; Class 5, £11 10s. These are the maximum pensions, which are less than the old age pensions given by the English Government, but it is stated that the purchasing power of money is greater in Germany.

The conditions for invalidity pensions are (1) that the contributions shall have been paid for 200 weeks, and (2) that there has been incapacity to earn a living for at least twenty-six weeks. The minimum invalidity pension is: For Class 1, £5 16s.; Class 2, £6 6s.; Class 3, £6 14s.; Class 4, £7 2s.; and Class 5, £7 10s., but the pensions increase according to the number of weekly contributions that have been paid, until at the end of fifty years, or 2,500 contributory weeks, the following maximum invalidity pensions are paid: Class 1, £9 5s.; Class 2, £13 10s.; Class 3, £16 10s.; Class 4, £19 10s.; and Class 5, £22 10s. The pensions are paid monthly in advance through the post. Claims for a pension have to be made in writing, and the insured may appeal to the Arbitration Court if he is dissatisfied, and there is a further appeal to the Imperial Insurance Department. For the purpose of a pension, invalidity does not mean total inability to earn anything, but it is defined as inability to earn one-third of the average previous earnings. The age of the insured makes no difference, but a claim is annulled if the disability were brought about intentionally or by criminal action or by disobedience to the doctor's orders. Those who have an accident pension are at liberty to claim instead of it an invalidity pension, but they cannot have both.

An insured person who has been unable to work for a continuous period of twenty-six weeks, during which he will have been receiving sick pay from the sickness insurance, receives an allowance from the invalidity insurance for a further period of disability, and the invalidity insurance is compelled to provide such medical attendance in a hospital or sanatorium as seems necessary to prevent permanent invalidity; while a patient is thus under treatment his family and dependants receive a relief allowance. Many cases of incipient phthisis are thus sent to sanatoriums, and ample provision is made for their families while they are away, so that they have no anxiety and no reason to leave the sanatorium before they are fully convalescent. This is an excellent arrangement, and something of the sort is greatly needed in this country. The sickness insurance organization may also send persons to convalescent homes, the invalidity insurance only taking up the case when there is fear of permanent invalidity. Moreover, if there is any fear of permanent invalidity, the waiting period of 200 weeks before an invalidity pension is payable does not prevent the invalidity insurance providing such medical attendance as seems necessary to prevent such permanent invalidity. The accumulated funds are quite sufficient to provide the best possible treatment at sanatoriums, and any specialist treatment such as "air-cure" establishments, agricultural colonies for convalescents at sanatoriums, and anything that medical science advocates.

All kinds of prophylactic measures are undertaken by the invalidity insurance on the ground that the pension fund is thus saved. For instance, the insurance officials visit the insured at their homes, and take note of defects in housing, lighting, drainage, overcrowding, unwholesome conditions of work, which are brought under the notice of the proper authorities. Literature relating to hygiene is freely distributed, and the Imperial insurance department puts the most liberal interpretation on its regulations. Official statistics show that the invalidity insurance organization has spent out of its surplus funds, after paying all pensions, over £9,000,000 in the construction of hospitals, sanatoriums, convalescent homes, public baths, etc., and over £6,500,000 in building wholesome dwellings for the working classes. In 1903 between seventy and eighty sanatoriums, containing about 7,000 beds, were provided by the invalidity insurance, and the insurance is in fact the centre of the antituberculous campaign in Germany. Whether the saving in invalidity pensions is commensurate with all these prophylactic measures can hardly be decided, and on this point reference should be made to Dr. Bulstrode's report on sanatoriums for consumption, where the question is fully discussed.

It must not be supposed that the using of the insurance funds for these purposes has not met with opposition. Contributors claim that if the funds are in such a good position, either the contributions should be lessened or the old age and invalidity pensions increased, and that it is not equitable that the contributions of employers and working men earning under £100 a year should be used for objects for which provision should be made from other sources. The existence of the State subvention of £2 10s. for each annuitant may be regarded as a good answer to such complaints. It is true that the work done by the invalidity insurance is for the good of the whole community and not solely for the good of the insured, but it is equally true that for the contributions paid the benefits are far greater, as far as the workers are concerned, than would be provided by any private insurance office, owing to the employers' share in the premium and the State subsidy.

Statistics of Invalidity and Old Age Insurance.

The following are the statistics for the year 1905, the latest at present available to us:

Persons insured...	13,948,000
Persons pensioned	1,286,000
Total receipts in marks about	250,000,000
Total expenses in marks	125,000,000
State subsidies to annuitants in marks	47,000,000
Total funds in marks ... about	1,237,000,000

The enormous extent of the operations is shown in the following table:

GENERAL STATISTICS OF GERMAN COMPULSORY INSURANCE (1905) (*1 mark reckoned as about 1s. in round figures*).

	Sickness Insurance.	Accident Insurance.	Invalidity and Old Age Insurance.	Totals for All Insurances.
Persons insured... ...	11,903,794	19,384,803	13,948,200	45,236,797
Persons compensated...	4,848,600	1,034,800	1,286,000	7,169,400
Total receipts, round figures, in £ sterling	14,406,000	8,948,200	12,515,600*	35,869,800
Receipts from employers	4,350,100	7,891,100	4,032,300	16,273,500
Receipts from workpeople	9,384,600	None	4,032,300	13,416,900
Total expenses, round figures, in £ sterling	13,614,800	7,876,900	8,658,800*	30,150,500
Expenses for compensation	12,865,800	6,807,400	7,911,000*	27,584,200
Expenses for administration	748,950	1,069,600	747,850	2,566,400
Accumulated funds, round figures, in £ sterling	11,305,300	12,930,100	61,877,000	86,112,400
Compensation per case	£2 13 0	£6 10 0	£6 3 0*	—
Charges for person insured	£1 2 0	0 8 0	0 15 0*	—
State subsidies	—	—	£2,367,500	£2,367,500

* In the column for Invalidity Insurance these amounts for total receipts and expenses, etc., are inclusive of the State accounts.

A BILL is now before the Senate of the State of Ohio providing for the appropriation of £200 to organize and equip a Pasteur Institute for the treatment of hydrophobia at the Ohio State University, Columbus, and for the appropiation of £200 annually for its maintenance.

THE UNIVERSITY OF LONDON'S REGULATIONS FOR DEGREES IN SCIENCE.

DR. H. E. ARMSTRONG, F.R.S., Professor of Chemistry at the City and Guilds College, South Kensington, has long been insistent, in season and out of season, in his criticism of the English system of education in science, and especially in chemistry. He has raised the subject again by a long and interesting letter published a few weeks ago in the *Times*, and as his criticism is pointed by reference to the regulations of the University of London, and the manner in which they are interpreted, it cannot be said that on this occasion, at any rate, he speaks out of season when a Royal Commission is sitting and taking evidence into the working of the present organization of the University of London and other facilities for advanced education — general, professional, and technical — in London, and is instructed to make recommendations as to the provision which should exist in the metropolis for university teaching and research.

Professor Armstrong pointed out that—

> The Germans excel in research work, because research is an integral part of their degree examination, a thesis describing some piece of research work being the necessary preliminary to the examination. The German student, in fact, proceeds to the university with the definite idea in his mind that his main occupation will be research; his outlook is a forward one. Our method, on the contrary, has involved nothing more nor less than the training of parrots, no attempt being made to establish a forward outlook in the student's mind.

Professor Armstrong tells us that a deputation from the City and Guilds of London Institute urged on the last University of London Commission the desirability of including in the statutes a regulation which would make it possible for the university to grant degrees by research, much as it is done in Germany. With the aid of the late Sir Michael Foster such a provision was secured.

> "What we urged," says Professor Armstrong, "was that opportunity to make a real experiment should be given to London schools, so that it might be possible, after a few years, to institute a comparison between the old system and our proposed new one. That opportunity has never been granted in any proper manner; the B.A. and coaching elements have always set their faces against us. Students from my department desiring to become qualified in research methods have been treated with gross unfairness."

Last October Professor Armstrong directed eight of his best students to apply for leave to take their B.Sc. by research. On January 28th they all received notice of refusal. The Senate cited the following regulation:

> The B.Sc. degree by research shall be permitted only as an exceptional and strictly supervised means of access to the honours degree, and not as an alternative to the pass examination.

Professor Armstrong therefore charges the university with having broken faith. The statute allows research to be accepted in place of the whole or part of the B.Sc. examination, subject to any conditions contained in any regulations to be made by the Senate. It says nothing about a limitation to the honours degree, and it seems clear that Professor Armstrong has reason to feel aggrieved.

> At present [he says] the London B.Sc. degree denotes cram and nothing more; the able men who take and who remain of some worth after taking it are severely maimed in the operation, whilst the weaklings are all ruined for life, as they become veneered with prejudice, having never learnt to think for themselves or to work unaided.

An efficient research chemist is one who on entering industrial works is able to exercise a trained reflective and analytic habit of mind on the numerous problems which present themselves. The assistants trained under the London system are mere precedent worshippers, and Professor Armstrong urges parents to shun the London degree in every shape and form if they wish their sons to be of service to their country and to succeed in life.

> Those of us who are intimately acquainted with industrial requirements know that our one and only chance of competing with Germany and America is to follow German methods of university training—there is no other way of developing intelligence.

While pointing out difficulties, Sir William Ramsay on the whole heartily endorsed Professor Armstrong's letter. "The traditions of London University," he wrote "have been such that far too much stress has been laid on examination ability. . . . The tendency now is to make a fetish of examination."

We have heard it asserted, as if it were a truism, that no one should be admitted as a recognized teacher of the university who had not taken a first class. Sir W. Ramsay agrees that such a contention is absurd. He says:

> The standard required for first class honours is very high in my opinion, far too high, and it demands on the part of the student an exceptional memory and great application and diligence. Such qualities sometimes accompany originality, but the two do not necessarily run together; and my experience has been that graduates who have been awarded third class—that is, the lowest class of honours in many cases—subsequently prove as good, and sometimes even better, assistants than those whose memorial powers have gained for them the highest place.

Can we hope that the academic pedant will ever recognize that men of genius will go their own way and work in their own manner, will be intolerant of learning orthodox ideas, will have times of idleness alternating with extraordinary and fruitful activity, will want to think out everything to the end, and refuse to learn parrot-like a mass of textbook details?

Professor Ramsay agrees that candidates for a research degree should pass some equivalent to the German Verbandsexamen, an examination mainly conducted by the teachers. It is imposed by private arrangement between the professors in the German universities. It is held privately by the professor in each school, and serves a twofold purpose—to spur the laggards and give the professor the opportunity of declining to find subjects for those not competent to undertake higher work. No fee is charged.

> In London the candidate for a degree is heavily fined as well as heavily examined at every stage. At the German university matriculation is a formal matter, the school leaving examination giving the right of entry; there is only one public examination for the degree. Happy is the German student—he is not forced to coach and cram, his wits are not examined out of him, his professor is trusted to teach him and to care for him at all times. From the days of Liebig onwards the system has bred large numbers of real chemists, who have made German chemical industry admired of all the world. Our system is a proved failure.

Professor Armstrong scouts the unworthy suggestion that any teacher worth his salt would ask that the degree should be given on improperly easy terms. The teachers are simply asking for conditions that will promote efficiency and the fulfilment of a statutory promise. Opposition comes from those who are the product of the incriminated system, and believe in it more or less—men who have been through the cram and grind of it, and would make others do the same, looking at things from the vested interest point of view. "We had to go through the Slough of Despond to reach the money-making fields of Elysium, and so must you. The harder it is made, the fewer the successful competitors, and the better for us." Opposition also comes from the great army of those who desire pecuniary advantage from examinations; as Professor Armstrong says:

> Examining is one of the most thriving of British industries—one of the few that will be left us probably, at no distant date, if we continue much longer to regard it as the true and only means of educational salvation. . . . In the near future, to cope with the evils of unemployment, which must increase as competition becomes more severe, our industries will need only men of ideas, not those whose imaginative power has been educated out of them by an examination system administered on Chinese lines. My own deliberate opinion is that we are at the parting of the ways in London, and that if continued in its present form, the university will be our ruin, because it is debasing every branch of education.

Dr. E. J. PARRY, who has recently relinquished his practice at Hurstpierpoint, Sussex, has been presented by his friends in the neighbourhood with an illuminated address, and a book containing the names of the subscribers, together with a cheque for £100. The presentation was made by the Rector of Streat, and was suitably acknowledged by Dr. Parry.

PAYMENT OF TAXES UNDER THE BUDGET.

As the situation in regard to the payment of the taxes dealt with in the suspended Finance Bill of 1909 and of other taxes with which the Finance Bill is not concerned is not generally understood, some description of the position may be useful.

The taxes that it was proposed to include in the Budget of 1909 were, with the exception of the new land taxes and the super-tax, originally collected on the strength of resolutions passed by the House of Commons prior to the discussion of the Budget. The acceptance of such resolutions by the House of Commons, carrying with it as was supposed the practical certainty of ultimate confirmation by the Finance Act, has hitherto usually been regarded as affording sufficient authority for the collection of taxes from the commencement of the fiscal year up to the date of the formal imposition of the taxes. When, however, in November last the Finance Bill failed to pass the House of Lords, the resolutions were considered to have lost what virtue they had by reason of representing the ultimate provisions of the Finance Act, and this view was emphasized on the dissolution of Parliament in December. A difficult situation was thus created, particularly in regard to those duties directly payable, not by the person on whom it was intended that the incidence should fall, but by a manufacturer or importer, removed from the actual consumer, perhaps, by two or more intermediaries.

In examining the position of affairs as affecting the payment of the various taxes, it should be understood that the Finance Bill includes three classes of taxes: (1) New duties; (2) existing duties, where sanction is required for proposed increase or revision; and (3) duties that require to be reimposed annually in order to remain in force. There are other taxes not dealt with in the Finance Bill, but collectable year by year without special legislation so long as there is no change. To this class belong the inhabited house duty, the existing land tax, the duties on carriages, male servants, and patent medicines, gun licences, etc., all of which are leviable without reference to the Finance Bill or its suspension.

The new duties in the Budget were those on land values, the super-tax, and the special duties on motor spirit; the duties increased or revised were those on liquor licences, the death duties, the stamp duties and duties on spirits, beer, tobacco, and motor cars; while the income tax and the tea duties, apart from the changes in the rate of income tax and in other matters affecting the tax, are of necessity included in each Budget to secure their continuance.

Of the proposed new duties, those on land values and the super-tax must be assessed before they can be paid; and as the Finance Bill itself provides for the setting up of the machinery for assessing, it is clear that no payment can be required or made until the Finance Bill passes into law, nor, in fact, has any attempt been made to secure such payment. It is, however, worthy of note that the provisions of the Finance Bill, if and when passed, will in all probability have retrospective effect so far as these taxes are concerned, and payment will be required as from April 30th, 1909.

The new customs and excise duties on motor spirit are on a somewhat different footing. The machinery for charging and collecting these duties was already in existence, and there is practically no doubt that the Finance Act will eventually impose them in the precise form in which they appeared in the resolutions. As a consequence the duties were collected from the importers and manufacturers by virtue of the resolutions up to the date of the dissolution of Parliament, and since then have been voluntarily paid by the traders and added to the price of the spirit in order that they might protect themselves against the possibility of having eventually to pay duty that had not been recovered from the consumer. It may here be remarked that for the year 1909 medical men are entitled to repayment of the tax paid by the manufacturer or importer on the petrol used by them in cars used for professional purposes, and can now obtain such repayment up to December 4th last on application to the local officer of customs and excise. The application must be accompanied by vouchers from the trader supplying the spirit to the effect that tax has been paid on the stock of spirit from which the supply is drawn. Such vouchers usually take the form of receipted invoices with a certificate written or printed thereon, and signed by the trader or responsible person on his behalf. The excise authorities satisfy themselves as to the accuracy of the certificates so given before making the repayment claimed.

As regards the duties proposed to be increased by the Budget, the death duties and duties on tobacco and motor cars have in most instances been paid voluntarily on the new scale, though the authorities have been prepared, and are still prepared, to accept duties on the old scale subject to due guarantees for payment of any excess that may eventually prove to be due; but brewers, distillers, and licensed victuallers have in many cases preferred to retain the licence duties in hand in the hope that the provision of the Finance Act as ultimately passed may be more favourable to the trade. The stamp duties were not to come into force until the passing of the Act, so that no payments will be required under this head for the fiscal year 1909–10.

The question of the collection of the income tax presented greater difficulties and anomalies. While a Finance Act is necessary for the legal levying of the tax year by year, the Income Tax Acts provide the machinery for the assessment and collection—machinery controlled to a large extent by local bodies of commissioners more or less independent of the Treasury. In many instances the ordinary course had, when the deadlock arose in November, been followed so far as to the computation of the duty due from each person, and when it became a question of the collection of the duty, some bodies of commissioners authorized their collectors to issue the usual demand notes, while others declined to do so, or even to allow them to accept payment until the Finance Act should be passed. A considerable number of the collectors are under the direct control of the Treasury; these have, it is understood, been instructed not to accept any payment for the time being. In the present state of affairs, then, payment of income tax is in no case insisted upon, but in some districts it is open to the taxpayer to pay, while in others it is not.

Where income tax has been collected it has been at the new rate of 1s. 2d. on unearned incomes and at the rate of 9d. on earned incomes, no effect having as yet been given to the provisions of the Finance Bill for charging the earned incomes of people with incomes between £2,000 and £3,000 at the rate of 1s. in the £. Income tax is deductible from dividends paid by companies and from interest on stocks paid through banks; tax has almost invariably been deducted at the rate of 1s. 2d., regardless of whether the tax so deducted has been paid to the revenue. In the extremely improbable event of the rate of 1s. 2d. not eventually being enforced, the recipients of the dividends and interest so taxed by deduction would have a claim against the person or corporation deducting the tax.

In this connexion it is worthy of note that income tax, Schedule A, commonly known as property tax, and usually deducted by tenants from the rent payable at Lady Day, is not deductible from the rent until it has been paid to the collector of taxes, so that in those cases in which the collector declines to accept the duty it will be necessary for the Lady Day rent to be paid in full, and for the tax to be deducted from the instalment of rent paid next after the date when the tax is actually paid.

To sum up the position as regards the taxes most likely to concern members of the medical profession, it may be said that, pending the passing of the Finance Act, the licence duty on carriages and male servants must be paid as heretofore, the licence duty on motor cars must be paid on the old scale if demanded, the petrol tax is compulsorily paid in the form of increased price, but may be reclaimed as explained, while the income tax need not be paid and should not be paid if the person concerned will be entitled to but has not been allowed the rebate for children (allowable to those whose total incomes do not exceed £500), or the reduction of duty to the rate of 1s. in the £ applicable to persons with incomes from £2,000 to £3,000. Death duties need not be paid on the new scale for the time being, but it will be advisable to pay them in ordinary cases to avoid the inconvenience of reopening the matter in the future.

A COURSE of four Gresham lectures on elementary domestic hygiene will be given by the Gresham Professor of Physic, Dr. F. M. Sandwith, at the City of London School, Victoria Embankment, E.C., on Tuesday, April 5th, and the three following days, at 6 p.m.

THE MIDWIVES ACT, 1902.

APRIL 1ST, 1910, marks a new era in the history of the professional midwife. From and after this date no woman shall habitually and for gain attend a woman in childbirth otherwise than under the direction of a qualified medical practitioner unless she be certified under the Midwives Act.

There used to be certain fictitious characters known to the law as John Doe and Richard Roe. Any one who has read *Ten Thousand a Year* may claim acquaintance with them. Mr. Joshua Williams, in his *Law of Real Property*, wrote that, upon the passing of a certain Act, "the earthly career of John Doe and Richard Roe came to an end."

We venture to hope that Section I (2) of the Act of 1902 may be the funeral dirge of "Sarah Gamp," and that a few years hence we may be able to say, as Betsy Prig said of Mrs. Harris, that we "don't believe there's no sich a person." "Sarah" has not yet quite disappeared from amongst us. We seem to catch a glimpse of her in a paragraph of the report of the Departmental Committee which was issued last year.

> The difficulty of replacing the unqualified woman by a superior order of practitioner is not unfortunately altogether a question of supply, as, apart from the feeling of medical men in the matter, the reluctance of a certain class of the poor themselves has to be overcome; we were told that in many cases they prefer the old type of attendant, who is probably well-known to them and is usually more helpful in the house, although she is often uncleanly and inexpert. Sometimes, too, the preference may be due to her companionable, not to say convivial qualities, and occasionally, but we hope rarely, to the more sinister reason, as a medical officer put it, that she is believed to enjoy, "a lot of churchyard luck." In commenting on this, the witness said, "they do not want the children to live."

It is clear from a consideration of the rest of the report and from the evidence upon which it is founded, that while it was right to postpone the full operation of the Act until this year, there was no reason to give any further days of grace to the uncertified midwife. The Committee was unanimous in thinking that there was no occasion to delay any further the operation of the penal section which provides that:

> From and after the first day of April, 1910, no woman shall habitually and for gain, attend women in childbirth otherwise than under the direction of a qualified medical practitioner, unless she is certified under this Act; any woman so acting without being certified under this Act shall be liable on summary conviction to a fine not exceeding £10; provided that this section shall not apply to legally qualified medical practitioners, or to any one rendering assistance in a case of emergency.

This is a remarkable piece of legislation from more than one point of view. In the first place, it goes much further than the penal sections of the Medical Act, 1886, or the Dentists Act, 1878. Those enactments merely prohibit the use of misleading titles. A man may practise medicine or surgery so long as he does not assume a title which leads people to believe that he is legally qualified. Again, the practice of dentistry by an unqualified person is not illegal. But, subject to the exceptions mentioned in the section, it is unlawful to attend a woman in childbirth, although questions such as: What is habitual practice? What is attending a woman in childbirth under the direction of a qualified practitioner? will probably arise and will have to be decided in the courts.

In the second place, the Legislature has obviously assumed that by April 1st, 1910, there would be enough certified midwives in the country to satisfy requirements. As it has been the fashion in recent legislation to define the end without providing the means, it is profitable to inquire whether, in this instance, the days of grace which have elapsed since 1902 have been sufficient to call into being an adequate number of certified midwives. Much useful information is to be found in the report of the Departmental Committee. That body was asked to consider the working of the Act, the supply of midwives and the cost of training, and the remuneration of medical men summoned on the advice of midwives in pursuance of the Act. A glance at the findings of this Committee shows that the Legislature were fully justified in passing the Act. There was no criticism of the Act in its main provisions. The number of certified midwives increased (from 956 in 1906 to 5,934 in 1909), and there has been a notable reduction in the death-rate from puerperal septic diseases since the Act came into operation. Figures are dull reading, but the following passage from the report is worth reproducing: "During the 15 years preceding 1903, the highest death-rate from these causes per million females living was 202 in 1893, and the lowest was 109 in 1898. In 1902 it was 118. In 1903, the year in which the Midwives Act came into operation, this death-rate dropped to 97. In the three following years it was 94, 98, and 93 respectively, and in 1907 it declined to 81."

The fact that there have been large additions to the roll of midwives during the last three years fully justifies the hope that a shortage in the supply will not long be a source of trouble. The Committee was of opinion that there could only be a shortage in some 15 counties out of 50, and in 12 county boroughs out of 71. It also considered that as the provision and maintenance of an adequate supply of midwives was mainly a question of organization and distribution, there was no need of any subvention from the State. County nursing associations working in co-operation with the local supervising authorities, and affiliated wherever possible, could do what was necessary. It may be presumed, therefore, that this objection—that there are not enough certified midwives—if it has any real substance, is one that will soon be got over.

With regard to the remuneration of medical men called in by certified midwives, the Committee expressed a unanimous opinion that the Act should be amended by giving the practitioner summoned by a midwife in cases of emergency a secure expectation of payment; that the local authority charged with the administration of the Poor Law should be made the authority responsible, and should be empowered, when it saw fit, to charge the fee paid as "relief on loan" to the patient; that the amount of the fee should be fixed by order of the Local Government Board on a systematic basis, having due regard to local conditions; and that the system of a uniform fee had so much practical advantage that it should be adopted, a distinction being drawn between the fee for emergency cases which involved immediate attendance at any hour of the day or night and other cases not of immediate urgency. The objections to placing this duty upon the Poor Law authorities have been fully stated on behalf of the British Medical Association, which has pointed out that the duty is undertaken more in the interests of the public than in the interests of the individual, and that the matter of payment should be dealt with through the local health authority, and not through the Poor Law. In any case, before applying to the local authority the doctor should state that he had been unable to obtain payment of the fee from the patient or her representative.

It is manifest that the smooth working of the Act, now that it is in full force, depends in large measure upon the adoption of this recommendation of the Committee. The public are apt to say, "The doctors are playing for their own hands," but it is not so. If the practitioner is to be at the beck and call of the midwife at all hours of the day and night, he may have to neglect his own patients. Moreover, the layman is rather apt to expect too much from the doctor, a large part of whose time is devoted to the gratuitous relief of suffering.

By adopting the principle which is expressed in the section that has just come into force the State has accepted a position of special responsibility towards parturient women and new-born infants; and as this attitude has been taken up for the benefit of the community it is just and right that the burden of properly administering the Act shall be borne by the public as a whole.

A DISCUSSION on alcohol and life insurance will be opened by Mr. William Bingham, managing director of the Sceptre Life Association, at a meeting of the Society for the Study of Inebriety, to be held at 11, Chandos Street, W., on Tuesday, April 12th, at 4 p.m.

AT a meeting of the Royal Sanitary Institute to be held at the institute's house, 90, Buckingham Palace Road, London, S.W., on Wednesday next, at 5 p.m., Dr. A. J. Martin, Inspecteur-Général des Services d'Hygiène de la Ville de Paris, will read a paper on the sanitary aspects of floods, and measures to be taken to prevent epidemics arising therefrom.

CORONERS COMMITTEE.

THE Departmental Committee appointed to inquire into the law relating to coroners and coroners' inquests, and into the practice in coroners' courts has just issued the first part of its second report.[1] The warrant of appointment of the Committee is dated December 15th, 1908. Its members are Sir Mackenzie Dalzell Chalmers, K.C.B., C.S.I., Sir Malcolm Morris, K.C.V.O., F.R.C.S.Edin., Sir Horatio Shephard, T. A. Bramsdon, M.P., now Sir Thomas Bramsdon, and William H. Willcox, M.D. Sir Mackenzie Dalzell Chalmers was appointed Chairman, and Mr. John Fitzgerald Moylan, Secretary.

The Committee has held thirty-three meetings, and has examined sixty-nine witnesses. Before commencing to take evidence they addressed a number of questions to the coroners of England and Wales, inviting their opinions on certain points. They received answers to these questions from 275 coroners. We can only give here a summary of those parts of the report which are of special interest to medical men.

The report states that the law relating to coroners is antiquated:

> The judges of the High Court are coroners by virtue of their office, but there appears to be no instance of an inquest being held before a judge. The duties of the coroner are discharged by three classes of coroners, namely, county coroners, borough coroners, and franchise coroners. The total number of coroners at present, taking individuals and not jurisdictions, is 330, made up of 200 county coroners, 76 borough coroners who are not also county coroners, and 54 franchise coroners who are not also county or borough coroners. The total number of coroners' jurisdictions is 360, but several coroners hold two or more coronerships.

Franchise coroners and Admiralty coroners are next dealt with. It is recommended that both these offices be abolished.

As to Section 12 of the Coroners Act, 1887 (50 and 51 Vict., c. 71), under which a coroner for a county is required to have "land in fee sufficient in the same county whereof he may answer to all manner of people," it is pointed out that no particular amount of land is specified, and it is said that this provision is satisfied if a coroner possesses the freehold of a grave in a cemetery in the county. It is recommended that the requirement as to the holding of land by county coroners should be abolished.

Dealing with the professional qualifications of coroners, the Committee says that the office is one for which, as the law now stands, no professional qualification is required. The majority of coroners at present are solicitors, some are barristers, a good many are medical men, and a few have both a medical and a legal qualification, whilst others have no professional qualifications at all. Having regard to the nature of a coroner's duties, the Committee thinks that a professional qualification should be prescribed, and that in future no one should be eligible for the office who is not a barrister, solicitor, or a medical man.

In regard to remuneration, the Committee is of opinion that the system of payment by fees should be abolished, and that all coroners should be paid by salary. When salaries are substituted for fees, they think that all work imposed on coroners should be taken into account, and that there should be the same power of quinquennial revision as in the case of county coroners. In fixing salaries, the number of preliminary inquiries as well as actual inquests should be taken into account. In connexion with the remuneration of coroners, it is pointed out that the law at present makes no provision for clerical assistance. The Committee thinks that in the larger courts a regular clerk ought to be provided, and that in the smaller courts an allowance ought to be made for clerical assistance.

With regard to age limit, it is pointed out that a coroner holds office during good behaviour. He may be removed by the Lord Chancellor for inability or misbehaviour, and, in the case of conviction for certain offences, he may be adjudged by the court to be removed from his office. Practically, a coroner holds office for life, unless, or until, he chooses to resign. The Committee thinks there should be an age limit at which retirement is compulsory, and that compulsory retirement at the age of 65 should be enforced in the face of all future appointments, save where the Lord Chancellor for special reasons may extend the term of office for a further period not exceeding five years. If the suggestion as to an age limit is approved, it is urged that the office of coroner should be pensionable in every case in which it is a whole-time office. There would then be no hardship in calling on a coroner to retire when he reached the age limit. In districts where the number of inquests is large, it is desirable that the coroner should be required by the terms of his appointment to be a whole-time officer. To attach a pension to the office of coroner would not materially increase the burden on the rates out of which the coroner is paid. A pension is in the nature of deferred pay, and experience shows that a prudent man will take a pensionable office at a considerably lower salary than he would a non-pensionable office. The Civil Service superannuation rules under the Superannuation Act of 1869 would perhaps furnish a basis for the calculation of pensions in the case of coroners.

Deputy Coroners.

The Coroners Act, 1892, provides for the appointment of a deputy by every coroner and borough coroner. A coroner should certainly, the Committee thinks, have power to appoint a second deputy to act in case of emergency.

Coroners as Justices of the Peace.

There has been no judicial decision that a coroner is *ex officio* a justice of the peace and can act as a justice generally. The Committee thinks that all doubt on the point should be cleared up, and that if its suggestion as to requiring a professional qualification for the office of coroner is approved, the name of every county and borough coroner should be included in the commission of the peace for his county or borough, unless for some personal reason he desires to be excused. This recommendation is confined to the coroner; it is not suggested that a deputy coroner should be a justice of the peace.

Fire Inquests.

The Committee has come to the conclusisn that the system of fire inquests established under the Act of 1888 has worked well in the City of London, and that the benefit of the system ought to be extended to the country at large. The opinion is expressed that it might be well to begin with an adoptive Act, empowering any county or borough council to adopt for its own district provisions framed on the lines of the City of London Act.

Post-mortem Examination without Inquest.

On this subject the Committee says:

> A coroner at present has no power to order and pay for a *post-mortem* examination except as part of an inquest. We are convinced that it is most desirable that the coroner should, without holding an inquest, have power to order and pay for a *post-mortem* in cases of sudden death where the cause is unknown, and there is no reason to suspect that the death is unnatural or violent. An inquest is always a painful ordeal for friends and relatives of the deceased. There are many cases in which it is impossible to say definitely what is the cause of death until a *post-mortem* has been held, but the *post-mortem* makes everything clear, and removes all need for a public inquiry. If an inquest could be dispensed with in such cases, trouble, inconvenience, and expense would be saved all round; the burial order could be given at once by the coroner, and distressing delay obviated. A good example of the case we have in mind is where a person, not under medical treatment, dies suddenly at a railway station, and no doctor arrives until life is extinct. It is possible, of course, that he may have died from poison, or from heart disease, or from apoplexy, or from any other cause of sudden death. If the coroner on inquiry finds that there is nothing suspicious about the case, and the *post-mortem* shows that death was due to (say) heart disease, why need an inquest be held? An inquest should, of course, be held where the inquiry and *post-mortem* examination disclose not merely sudden death, but unnatural or violent death, or any grounds for suspicion.
>
> It has been urged before us that if the coroner had this power of directing a *post-mortem* without an inquest, illegitimate pressure would sometimes be put upon him to exercise it. We cannot admit the force of this argument. In a large number of cases, at present, the coroner holds a preliminary inquiry and then dispenses with an inquest. The result of our suggestion would merely be to add to the number of these cases. Estimates as to the extent to which inquests would be diminished vary, but we think there is no room

[1] London: Wyman and Sons, Ltd.; Eyre and Spottiswoode, Ltd., East Harding Street, E.C.; or Edinburgh: Oliver and Boyd; or Dublin: E. Ponsonby. 1910. Price 2½d.

for doubt that there would be a considerable reduction, and that many unnecessary inquests would be avoided. We would, however, point out that it would be unfair to throw this new responsibility on coroners without making proper provision for the remuneration of no-inquest cases, particularly in the case of a borough coroner who is paid by fees per inquest. Either the coroner should have a fee for a case in which he directed a *post-mortem*, but held no inquest, or, as we have already suggested, all coroners should be paid not by fees, but by salary covering inquiries as well as inquests.

Deaths under Anaesthetics.

With regard to deaths under anaesthetics the Committee says:

We propose to report elsewhere on the general question of deaths under anaesthetics, but one matter in relation thereto requires to be dealt with in connexion with the law of coroners. Most coroners, it appears, hold that, when a person dies under an anaesthetic given for the purpose of a surgical operation, the death is an "unnatural death" within the meaning of Section 1 of the Coroners Act, 1887, and that the coroner is bound to hold an inquest. Others, however, consider that they have a discretion if, after preliminary inquiry, they are satisfied that the administration of the anaesthetic was necessary or proper, that it was properly given by a competent person, and that death was due to inevitable accident. In the public interest we think that the coroner ought to have this discretion. Every case of death under an anaesthetic ought to be reported to the coroner, whether it occurs in a public institution or a private house. If the coroner on inquiry is satisfied that all due care and skill has been used, we think that it is undesirable that there should be an inquest.

Rules of Procedure.

The coroner's court is a court for which there is no authority with power to make rules of practice and procedure and to prescribe forms. The Committee thinks it essential that a wide and flexible power to make rules should be given by statute to some central authority, and it suggests that the rule making authority might be the Lord Chancellor and the Home Secretary, assisted by a small advisory committee of coroners. In London and in big provincial towns the number of inquests is large, but the coroner's district is comparatively small and compact. He can easily obtain expert medical advice, and he has properly equipped mortuaries and *post-mortem* rooms. He is in the vicinity of large hospitals, with chemical and pathological laboratories. In the country, on the other hand, inquests are relatively few, but the expenditure of time per inquest is very much greater than in towns, as the coroner may have to travel long distances. If a difficult case arises the country coroner usually has to obtain his expert advice from some distant big town or do without it. Hence rules which are appropriate to large cities and towns would often require much modification to adapt them to the exigencies of rural districts.

Scales of Costs.

The fees payable to medical witnesses for attendance at coroners' inquests were fixed by statute more than seventy years ago, and have remained unaltered to the present day. With the exception, however, of the statutory fees to medical witnesses, every local authority for a county or borough, under Section 25 of the Coroners Act, 1887, fixes its own schedule of fees, allowances, and disbursements in respect of witnesses, juries (in cases where juries are paid), and any other expenses incidental to an inquest. There is neither uniformity nor principle in the various scales adopted. The Committee thinks that the Home Secretary should prescribe scales of costs for coroners' courts in the same way as for other criminal courts. The costs should, therefore, be uniform, and should be fixed on similar lines to those in other courts of justice.

Exhumation.

In cases in which it becomes necessary for the coroner to cause a body to be exhumed, he frequently applies to the Home Secretary for a licence under Section 25 of the Burial Act, 1857 (20 and 21 Vict., c. 81), for the removal of the body. It appears to the Committee that the coroner has sufficient power at common law to order the disinterment of a body of his own motion when necessary for the purposes of an inquest, and that probably the only case where an application to the Home Secretary for a licence is requisite is when the exhumation of the body upon which the inquest is to be held may cause interference with other bodies, as, for instance, when the deceased person has been buried in a common grave containing several bodies. In these circumstances it is thought that it might be well to make rules regulating the conditions under which applications should be made to the Home Secretary for his licence.

Removal of Body.

There is, says the Committee, some doubt as to the power of a coroner with regard to a dead body, but the probability seems to be that for all purposes incidental to an inquest the coroner has the legal custody of the body on which the inquest is to be held. In support of this it may be noted that the body cannot be buried until the coroner has given his order authorizing the burial. It would, however, be well that this point should be made clear. The report proceeds:

Section 24 of the Coroners Act, 1887, which reproduces a provision of the Public Health Act, 1875, is limited in its terms. It enacts that where a place has been provided by a sanitary or nuisance authority for the reception of dead bodies during the time required to conduct a *post-mortem* examination, the coroner may order the removal of a dead body to and from such a place for the purpose of the *post-mortem* examination, and the costs of the removal are to be deemed to be part of the inquest expenses. It seems to us that this power to order the removal of a dead body for the purpose of a *post-mortem* might with advantage be extended. In many places, especially in a rural district, no proper accommodation for the holding of a *post-mortem* may be available in the district itself, but there is often a hospital within reach where the *post-mortem* could be properly and decently conducted. We think that a coroner ought to be able to take advantage of the accommodation provided by hospitals, even though the hospital may be situated outside the local limits of his jurisdiction. There is every possible objection to a *post-mortem* examination being conducted in a private house, particularly if room be limited. We further suggest that adjoining districts might, with the sanction of the Home Secretary, be allowed to combine for the purpose of having a joint coroner's court, mortuary, and *post-mortem* room.

Perverse Verdicts.

On this subject the Committee says:

If twelve of a coroner's jury agree on a verdict, it seems that the coroner is bound to accept their verdict, however insensate it may be. Instances of extraordinary verdicts which coroners have felt compelled to accept are cited in the report of the Select Committee on Death Certification, 1893, for example:

> "The man died from stone in the kidney, which stone he swallowed while lying on a gravel path in a state of drunkenness."
>
> "A child three months old found dead, but no evidence to show whether born alive."

It is to be noted that the jury are to inquire of and find the particulars required by the Registration Acts to be registered concerning the death (Coroners Act, 1887, s. 4 (4)), and that a coroner who alters the verdict of the jury may be guilty of forgery.

The Committee thinks the coroner should take the jury's verdict, whatever it may be, but that he should be empowered, if necessary, to apply to a judge in chambers to set the verdict aside and authorize a new jury to be summoned.

Riders to Verdicts.

It is pointed out that it sometimes happens that the jury wish to add an unreasonable or mischievous rider. The Committee thinks that riders should be required to be separated from the verdict, and endorsed on the back of the inquisition, and the coroner should be at liberty to record his dissent from the jury's rider, and his reasons for so doing.

Medical Witnesses Summoned by Jury.

It is pointed out, under Section 21 (3) of the Coroners Act, 1887, that if the majority of the jury are of opinion that the cause of death has not been satisfactorily explained by the evidence of the medical practitioner or other witnesses brought before them, they may, in writing, require the coroner to summon as a witness some other qualified medical practitioner named by them, and, further, to direct a *post-mortem* examination, with or without an analysis of the contents of the stomach or intestines, by such medical practitioner. It appears to the Committee that the majority of a coroner's jury should not have the power to select a medical expert, and that this provision should be repealed. If the coroner does not conduct an inquest properly, there is an adequate remedy in an application to the High Court, under Section 6 of the Coroners Act, 1887.

View of the Body.

On this subject the Committee's conclusion is that, as a rule, the view by the jury should be dispensed with, but that the coroner should have power in special cases to require the jury to view. The view would then, of course, be directed to a special object, and would not be a perfunctory march past. The coroner should have a discretion to direct a view at any stage of the inquest, and not merely at its commencement.

Fees to Medical Witnesses.

With regard to fees to medical witnesses, the Committee says:

The fees payable to medical witnesses at inquests are regulated by Section 22 of the Coroners Act, 1887, which reproduces the provisions of an Act of 1836. The scale of fees allowed is inadequate, having regard to the scale allowed in other courts. There is great, and we think justifiable, dissatisfaction in the medical profession with the scale of fees in coroners' courts and the mode of their allocation. We think that the whole matter should be dealt with by regulations, and not by the iron-bound provisions of an old statute.

At present the fee for attending to give evidence at an inquest is one guinea, and, if the inquest is many times adjourned, and the medical practitioner has to attend on several days, no additional fee is payable. If a *post-mortem* examination, with or without an analysis of the contents of the stomach, is made, another guinea is allowed. These fees are clearly, in many cases, wholly insufficient, and should be revised when a new scale is made.

In the opinion of many coroners and local authorities the Act contemplates only one medical witness being called, and makes provision for the payment of only one guinea for a *post-mortem*, if required, and one guinea for evidence at the inquest. But the medical practitioner who attended the deceased, or was called in at, or immediately after, death, may or may not be the proper person to make the *post-mortem* examination. In many cases the *post-mortem* examination can be made effectively only by a pathological expert, but, if such expert is called in, he can at present receive only a guinea for the examination. For expert examinations both skill and practice are required, and the expert who makes them ought to be paid an adequate fee, not only for the examination, but also, separately, for attending to give evidence. On the other hand, a *post-mortem* examination made by a skilled pathologist will often give no result unless it is supplemented by clinical evidence, and therefore there should be power to summon and pay the medical practitioner or practitioners with clinical knowledge of the case in addition to expert. The provision of Section 21 (2) of the Coroners Act, 1887, which includes the chemical analysis of the contents of the stomach or intestines as part of the *post-mortem*, is ridiculous, and should be repealed. Except in the simplest cases an analysis is useless unless it is made by a toxicologist with all the appliances of a modern laboratory at his command.

In some cases the local authority includes in its schedule of fees, etc., under Section 25 of the Coroners Act, 1887, a fee for an expert analysis, and, where provision is made for such a fee, a coroner may obtain an expert analysis on applying beforehand to the local authority for permission to incur the expense. Other local authorities apparently hold that they have no power to include a special fee for an expert analysis in their schedule, and then the coroner has no alternative but to make application to the Home Office for expert assistance. This, of course, involves delay, which is often prejudicial. We think that the conditions under which a coroner may order an expert analysis should be determined by Home Office regulations, under the Costs in Criminal Cases Act, 1908. Our suggestion is, of course, not intended to limit the powers of the Home Secretary to direct a special analysis by an expert named by him in special cases.

Selection of Medical Witnesses.

With regard to the selection of medical witnesses, the Committee says:

Under Section 21 of the Coroners Act, 1887, where the deceased was attended at his death, or during his last illness, by any legally-qualified medical practitioner, the coroner *may* summon such practitioner as a witness. If, however, the deceased person was not so attended, the coroner may summon any legally-qualified medical practitioner in practice in or near the place where the death occurred, to give evidence as to the cause of death.

It has been urged that the coroner is bound to summon the medical practitioner who attended the deceased, or was called in to see him after death, and that, if a *post-mortem* examination is required, the coroner is also bound to employ that medical practitioner to make it. We cannot accede to that contention. The medical practitioner who was called in to see the deceased may or may not be the proper person to make the *post-mortem* examination. It is a matter which must be left to the absolute discretion of the coroner, who is the only person who can determine the fitness of the medical practitioner in question to make the examination. Moreover, as we have already pointed out, clinical evidence may be essential to supplement the evidence as to the *post-mortem*. The coroner is in a difficulty because, if the Act is strictly interpreted, he cannot pay both the medical witness who gives clinical evidence and the medical witness who makes and gives evidence as to the *post-mortem* examination. Every coroner should be empowered to call such medical witnesses as may be necessary for the proper determination of the case. In Scotland the procurator fiscal has a much freer hand as regards medical costs. In the first place he gets a formal written report from the medical practitioner in attendance, for which the fee of one guinea is paid. This very often disposes of the whole case without requiring the medical practitioner's attendance. If a *post-mortem* is required, he can order anyone he likes to perform it, and can pay him two guineas. If a criminal charge is likely to be involved, two medical men are always present at the *post-mortem*. If the medical witnesses are afterwards required to come and give evidence they are paid for for so doing. We are of opinion that these features of the Scottish system should be adopted in England. We further think that to give to coroners a somewhat wider discretion as to costs—a discretion possessed by all other courts—would go far to remove the friction which sometimes arises between them and the medical profession, and would, on the whole, be conducive to the efficiency of inquests and the public interest.

Medical Fees in case of Institutions.

On this subject the Committee says:

Under Section 22 of the Coroners Act, 1887, where an inquest is held on the body of a person who has died in a county or other lunatic asylum, or any public hospital, infirmary, or other medical institution, whether the same be supported by endowment or by voluntary subscription, the medical officer whose duty it may have been to attend the deceased person as an officer of such institution is not entitled to any fee or remuneration for attending to give evidence at the inquest or for making a *post-mortem* examination. Considerable doubt exists as to what institutions fall within this provision, and the practice of local authorities differs as to allowing or disallowing fees to officers of medical institutions.

We have been unable to obtain from any one who has appeared before us a defence of this provision on its merits. In the case, at any rate, of the London hospitals, not only the visiting staff, but also the house-physicians and surgeons, give their services to the hospital without remuneration. We fail to see why a man who gives his services out of charity should be penalized for so doing, by being required to perform a public duty, wholly outside the objects of the charity, without receiving the fee paid to other persons performing the same public duty. In all other courts a medical witness gets costs according to the scale, irrespective of the fact that he may be attached to an institution of a charitable or quasi-charitable nature. We think that this inequitable provision in Section 22 of the Coroners Act, 1887, ought to be repealed, and, whatever may have been the original motives of policy for placing officers of medical institutions in a separate class and debarring them from receiving the fees payable to any other medical practitioner, we cannot see any reason whatever at the present time for continuing to deprive them of fees.

Cremation Cases.

In reference to this subject, it is stated that Mr. Herring, the Medical Referee of the London Cremation Society, called attention to certain difficulties in the working of the Cremation Act, 1902 (2 Edw. VII., c. 8). His chief point was that when a person dies abroad and the body is brought into England, it cannot, under the existing regulations, be cremated unless the coroner considers himself justified in holding an inquest, and certifies in the prescribed form. He further complained of delay in communications with the coroner and the difficulty he had in getting certain original documents returned. The Committee thinks these difficulties could be disposed of by means of the regulations under the Cremation Act which are made by the Home Secretary. The attention of the Home Office was therefore called to Mr. Herring's evidence, and the Committee suggests that the matter should be left to be dealt with by the Home Office.

Certification of Deaths.

On the subject of death certification, the Committee called attention to the report of the Select Committee of 1893, to the representations of the London County Council, and to the evidence given on behalf of the Registrar-General. Certain aspects of the question of death certification came before it in evidence as bearing directly on the functions of the coroner. One witness suggested that there was reason to fear that, under the present lax system, a certain number of persons might be buried alive, but no authentic cases were brought before the Committee to bear out this suggestion. Still, the report states, it is no fault of the law if premature burials do not take place. The present law of death certification offers every opportunity for premature burial and every facility for the concealment of crime. The Committee thinks that a certificate of death should not be accepted from a medical practitioner unless it states

that he has by personal inspection of the body satisfied himself as to the fact of death. At present he may certify merely on the information given by the relatives, and evidence has been given before the Committee that many certificates have been carelessly or even recklessly given. The opinion is also expressed that in every case in which a medical certificate is not given, the death ought to be reported to the coroner. It does not follow that the coroner would hold an inquest, but he ought to be informed of every uncertified death, for the purpose of making inquiry. Under the instructions of the Registrar-General, it is usual now for registrars to report uncertified deaths to the coroner. This, in the opinion of the Committee, ought to be made a statutory duty.

Verdict in Cases of Suicide.

In regard to the verdict in cases of suicide, the Committee thinks that the verdict of *felo de se* should be abolished.

The only effect of retaining this verdict is to induce juries to find a verdict of "temporary insanity" without any evidence to justify it. The verdict of "temporary insanity" is open to the objection that when a man is dead it is impossible to say whether his insanity was of a temporary character or not. The Committee thinks that in cases of suicide the verdict should simply be that the deceased died by his own hand (stating how). The jury should be at liberty to add to their verdict that there is no evidence to show the state of his mind, or that at the time of taking his life he was of unsound mind.

Conclusion.

In conclusion, the Committee points out that it attaches special importance to three recommendations—namely, the abolition of franchise coroners, the payment of all coroners by salary instead of fees, and the bestowal on a central authority of power to make rules of practice and procedure.

A memorandum by Sir Thomas Bramsdon is appended to the report, in which, among other things, he says that

The main points in the report are, undoubtedly, that if coroners are given the power of ordering *post-mortem* examinations without the necessity of inquests following thereon, and also, if all coroners hereafter are paid by salary instead of fees, a great many inquests will be avoided, without in any way impairing the efficiency of the system. This, he feels sure, will be welcomed by the public, and he thinks importance attaches to the fact that the great majority of the coroners of England and Wales who were appealed to for their views upon the advisability of being empowered to order *post mortems* without holding inquests cordially agreed with the proposed alteration. Whilst he concurs in the advisability of the extension throughout the country of the City of London Fire Inquests Act, he does not concur in the suggestion that, if the system is to be so extended, it would be best to begin with an adoptive Act. His view is that, if the system is a valuable one, which he believes it is, it ought to be universally adopted throughout the country.

BRITISH MEDICAL BENEVOLENT FUND.

AT the March meeting of the Committee 27 cases were considered and grants amounting to £253 made to 23 of the applicants. Appended is an abstract of the cases relieved:

1. Widow, aged 48, of M.B.Durh. Endeavours to support herself by taking boarders, but has not been successful so far. Two children, aged 18 and 16, the latter at Epsom College. Relieved twice, £24. Voted £10.

2. M.D.Cantab., M.R.C.P., aged 72. Quite incapacitated by paralysis and dependent on a small weekly allowance from a son and three shillings a week as old age pension. Voted, £12.

3. Daughter, aged 67, of late M.R.C.S., L.S.A. Lost part of the provision made by father through the failure of a bank and the rest in the endeavour to establish a boarding house. Voted £12.

4. M.R.C.S., aged 65. Retired about ten years ago owing to ill health, but lost all his savings through unfortunate investments, and now endeavours to support himself by taking lodgers. Voted £12.

5. Daughter, aged 32, of late M.D.Edin. Has a small weekly pension, but is incapacitated by serious illness and is unable to meet unavoidable expenses. Voted £10.

6. Wife, aged 36, of M.R.C.S., L.R.C.P., who for eighteen months has been confined to a county lunatic asylum. No income; lets lodgings. Three children, aged 13 to 4. Relieved once, £5. Voted £10.

7. Widow, aged 61, of L.R.C.S., L.R.C.P.Irel. Provision made by husband lost through the failure of a bank, and applicant having bad health is now dependent on a sister obliged to earn her living as a companion. Relieved three times, £36. Voted £12.

8. Daughter, aged 55, of late L.R.C.P.Edin. Used to be a dressmaker and endeavoured to start on her own account, but was unsuccessful, and lost her savings. Receives a few shillings a week from a friend, and earns a little occasionally by needlework. Health indifferent. Relieved five times, £46. Voted £6.

9. Widow, aged 65, of M.B., C.M.Glasg. Is in very feeble health and practically dependent on the help given by this Fund and another charity. Only son is a signalman earning small wages. Relieved ten times, £114. Voted £10.

10. Widow, aged 86, of M.R.C.S., L.S.A. Only income a pension of £25 per annum from the United Kingdom Beneficent Association. Children only able to help with a few shillings occasionally. Has been bedridden for several years. Relieved once, £5. Voted £12.

11. Daughter, aged 61, of late M.R.C.S. Had to give up situation to nurse her mother and sister, both since deceased, and now endeavours to support herself by taking boarders. Relieved three times, £52. Voted £10.

12. Widow, aged 52, of L.R.C.P., L.R.C.S.Edin. No income; health very indifferent. Earns a few shillings a week as caretaker; no children. Relieved six times, £58. Voted £12.

13. Widow, aged 71, of M.R.C.S. Dependent on 5s. a week as old age pension and slight help from a daughter. Relieved seventeen times, £183. Voted £12.

14. Widow, aged 52, of M.D.Edin. Capital used to pay husband's debts, and now takes charge of a branch surgery, living rent free. Children unable to help. Relieved four times, £40. Voted £12.

15. Daughter, aged 58, of late L.S.A. No income; endeavours to maintain herself by letting lodgings; health very feeble. Relieved twice, £22. Voted £12.

16. Widow, aged 59, of M.R.C.S. No income, and dependent on two sons who can ill afford to help. Relieved five times, £45. Voted £10.

17. Daughter, aged 40, of late M.D.Edin. No income; is a daily governess, but at present has no post. Relieved eight times, £32. Voted £5.

18. Widow, aged 85, of M.D.Aberd. No income; dependent on two daughters who are governesses. Relieved once, £18. Voted £18.

19. Daughter, aged 50, of late M.R.C.S. No income, and health will not allow of any occupation. Relieved once, £10. Voted £10.

20. Widow, aged 69, of M.R.C.S. Income £14 a year, and receives occasional slight help from two sons who can only support themselves with difficulty. Relieved once, £10. Voted £12.

21. Daughter, aged 53, of late M.R.C.S. No income, and owing to continued ill health which prevents employment is dependent on small weekly allowance from sister. Relieved twelve times, £137. Voted £12.

22. Widow, aged 59, of M.B., C.M.Edin. Supported herself for some years after husband's death by taking charge of mental cases, but is now incapacitated by heart disease and dependent on a son whose earnings are small. Relieved six times, £72. Voted £12.

23. Widow, aged 36, of M.R.C.S. Quite unprovided for at husband's death a couple of years ago, and obliged to keep a small home for the sake of the children; slight help from friends. Relieved twice, £15. Voted £10.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

SCIENCE AT THE JAPAN-BRITISH EXHIBITION.

SIR HENRY MORRIS, Bart., F.R.C.S., Chairman of the Scientific and Surgical Instrument Section of the Japan-British Exhibition to be held in the Shepherd's Bush grounds this summer, has issued a circular letter inviting the co-operation of all interested in making the British part of the section a success. The Japanese, he states, are entering upon the enterprise of this exhibition with the energy and thoroughness characteristic of their nation, and from their point of view success is already assured. The following is a classification of the medical and surgical appliances and instruments desired; all must be of British manufacture, and they will be displayed in building No. 11 of the Liberal Arts Palace:

Medicine and Surgery.

Appliances, instruments, and apparatus for work in anatomy, histology, and bacteriology. Anatomical models, normal and pathological: histological and bacteriological preparations.

Apparatus for sterilizing instruments and appliances for dressing wounds.

Instruments for general and special medical research.

Instruments and apparatus for general, special, and local surgery; anaesthetics, antiseptics, obstetrical instruments, etc.

Appliances for dressing wounds.

Prosthesis; apparatus for correcting deformities, artificial limbs.

Apparatus for plastics and mechanical prosthesis; orthopaedic apparatus; apparatus for hernia; apparatus for medical

gymnastics; materials, instruments, and apparatus for therapeutics.

Instruments for physical diagnosis, clinical thermometers, stethoscopes, ophthalmoscopes, etc.

Instruments used in the practice of dentistry.

Appliances for the use of the infirm, of invalids, and of lunatics.

Chests and cases of instruments and medicines for the use of surgeons of the army and navy; appliances for rendering aid to the wounded on the field of battle.

Appliances for rendering aid to persons apparently drowned or asphyxiated.

Instruments and appliances for veterinary surgeons.

SCIENCE NOTES.

At the Royal Society of Edinburgh, Dr. R. J. A. Berry, Professor of Anatomy in the University of Melbourne, recently gave a lantern demonstration on the place in Nature of the Tasmanian aboriginal as deduced from a study of his cranium, and gave an account of the method of investigation which he had instituted. He pointed out that there were two conflicting opinions as to the origin of the Australian indigenous inhabitants. One of these, chiefly German, held the Australian to be a pure or homogeneous race; the other, the English school, adhered to the dual or heterogeneous character of the race. In order to see what light could be thrown by modern scientific methods on the Australian problem, several independent lines of research, all leading up to the one ultimate object, had been devised. As the Australian problem could not be solved until the place in Nature of the Tasmanian had been determined, his address was to be regarded as the fulfilment of the first or basal part of this undertaking—the determination of the relationship of the Tasmanian to the anthropoid ape and to primitive and modern man. The various skull types employed for comparison with the Tasmanian were shown, and the methods adopted in the Melbourne School for the correct placing of the Tasmanian in relation to the objects of comparison were described. One of the Tasmanian crania, from the 1909 Berry-Robertson discovery of 42 Tasmanian skulls, was exhibited, and this was followed by a detailed analysis of 53 Tasmanian crania, constituting by far the largest number of Tasmanian skulls ever hitherto handled by any scientist in any part of the world. From the study of the figures, together with those for the skulls of primitive and recent man, a diagram was constructed, which showed the relative positions of the 14 objects of comparison under every one of the 27 morphological counts of the investigation. These figures had been worked out mathematically, and from an exhaustive analysis of the entire work Professor Berry concluded that of recent man the Tasmanian stood nearest to *Homo fossilis*, but morphologically had progressed a very long way from *Homo primigenius* and the anthropoid ape—very much farther than most writers would seem to believe. Quite irrespective of the relationship of the Australian to the Tasmanian, the present work, as far as it had gone, proved that the latter had progressed a very long way from the Neanderthal-Spy man, who, as well as the man of Gibraltar, stood more nearly related to the *Pithecanthropus erectus* and the anthropoid ape. It was clear that the morphological evolution of the Tasmanian had progressed, at the time of his extinction, on its own independent lines and to a higher plane than was generally either admitted or supposed. That his mental culture was on such a primitive plane was fully explained by his complete and total isolation for countless years, and not to the fact that his physical organization was incapable of attaining a more improved degree of culture.

The agility with which a spider manipulates its thread and makes use of it as a means of locomotion is a marvel. Equally remarkable but less well known is the fact that many marine molluscs emulate the spider in this matter of thread-making. This thread, too, is of surprising delicacy, but is formed from the slime secreted by the animal's foot. In numerous shellfish such threads take the form of the familiar "byssus," which forms a prehensile organ of exceeding tenacity. Others, however, find a different use for the slimy secretion. It is not uncommon to observe small molluscs, apparently floating foot uppermost, at the surface of still water; yet, as they are heavier than water, this cannot really be the case. The explanation is that the slimy secretion from the foot glues them, as it were, to the surface. It is not difficult to detach them from this position, and if too much force is not employed they may be seen to hang suspended 2 in. or 3 in. below the surface by an almost invisible thread. After a time they proceed to make strenuous efforts to climb this thread. Considerable muscular exertion is required, and the feat is accomplished by bringing the head into contact with the thread, contracting the foot, and so advancing little by little. The precise mechanism, however, is difficult to determine. This interesting habit forms the subject of a series of observations by Mr. N. Colgan,[1] who has found it of more common occurrence than hitherto supposed. He has watched several species make use of these gossamer-like threads to suspend themselves from the surface, and has calculated the various rates at which they climb. Some take as long as three minntes to mount an inch, while others do it at the express speed of fifteen seconds. As showing the comparative strength of the slime thread an interesting observation may be quoted. A single *Rissoa cingillus* was put into a dish of water with six specimens of *Limapontia nigra*. After a short time the Rissoa was observed suspended by a thread. Three of the Limapontias were at the surface but the other three were found adhering to the Rissoa. The latter was making desperate efforts to climb, but its progress was slow. Hereupon one of the Limapontias set out to climb the thread on its own account, but it had only got a short distance "when it fell back on Rissoa's foot and so hampered its action that the animal soon gave up its laborious efforts to reach the surface and sank slowly with its burden to the bottom." In view of the energetic struggle that was made and the fact that the Limapontias were little smaller than the Rissoa, it may be understood that the thread was subjected to rather a severe strain.

LITERARY NOTES.

Has any one ever attempted to compute what the world owes to misers? Guy's Hospital stands as a monument of the niggardliness of a man who would not waste a halfpenny candle when a matter of business could be settled by talking. The British Museum may perhaps be counted as another concrete instance of the great effects of avarice, which Byron called a good old gentlemanly vice. Sir Hans Sloane was excessively parsimonious, his usual dinner being a boiled egg. In Mr. Ralph Nevill's recently published book, *The Merry Past*, it is related that Sir Hans was once told by Dr. Mortimer, when he complained of being deserted by his friends, that people were probably rather disappointed to go all the way to Chelsea to find such slight refreshment as his house offered. The old man flew into a rage at this, and exclaimed: "Keep a table! Invite people to dinner! Would you have me ruin myself? Public credit totters already, and if, as has been presaged there should be a national bankruptcy, or a sponge to wipe out the national debt, you may yet see me in a workhouse." His landed interest was at that time very considerable, and the descendants of his heirs have become rich beyond the dreams of avarice. His museum was worth much more than the £20,000 which, under the terms of Sloane's will, Parliament paid to his family.

The experiences of the first white women to penetrate to Lake Manasarowar (the Sacred Lake of Tibet) is told very naturally by one of the two enterprising travellers, Miss E. C. M. Browne, in the April number of *Travel and Exploration*. The unpleasantly primitive habits of the Tibetans are amusingly described:

> It is a solemn fact that some Tibetans never bathe from the cradle to the grave. Once in treating a Tibetan lama, who was suffering from dropsy, Miss Sheldon recommended a bath on a warm day. The wife held a consultation with our Tibetan Christian woman as to the effect of such heroic treatment. He had never had a bath in his life, she said, and she was not quite sure whether he would survive one! Their prejudices were overcome, the man was bathed, and eventually recovered. Since then there have been other similar cases, and a few days before the penning of this article a sick Tibetan woman, who came to the Mission, was in such a filthy condition that vermin seemed to be consuming her. She was too far gone, and succumbed in a very short time. Others of her family were also ill, but were cleaned up and gradually recovered. Their former garments had to be burned or buried.

[1] *Annals and Magazine of Natural History* (8), III (1909), pp. 354-362.

British Medical Journal.

SATURDAY, APRIL 2ND, 1910.

A NATIONAL EMERGENCY.

THE report of the proceedings of the deputation representing the British Medical Association, and in particular the Metropolitan Counties Branch, which last week had an interview with Dr. Newman, the medical officer to the Board of Education, published in the SUPPLEMENT to this issue, is of far more than local interest. For the problem which has been grappled with in London is one which will have to be dealt with all over the country, and one which in its main features is practically identical in all large centres of population. The views which the deputation presented embodied the considered opinions of the Association reached after full investigation of the subject in all its aspects.

When medical inspection was determined upon, it was recognized that the duty of treating the defects disclosed must be undertaken by the State, but, as so often happens, the problem was not fairly faced either by the central or local authorities. Instead of handling the subject in a thorough and comprehensive manner, they adopted the usual half measures, and, anxious to evade responsibilities—more especially as they involved expenditure—they turned to existing voluntary hospitals with a view of seeing how much could be got out of them and out of the medical profession for nothing. The first move in this direction was, we believe, made by the Sheffield authorities, and there, unfortunately, the honorary staffs of the hospitals agreed, probably before the full importance of the question was adequately appreciated, to treat children referred to them by the Education Authority free. The general subject was taken up by the Medico-Political Committee of the British Medical Association, and thoroughly examined by a special subcommittee, which formulated principles which have been approved by the Representative Meetings of the Association. The London Education Authority appointed a special subcommittee, on which the British Medical Association was represented, "to inquire into the whole question of the medical treatment of children attending public elementary schools." This subcommittee reported[1] strongly against resort being made to charitable institutions, and recommended that the Council should establish school clinics at suitable centres in the metropolis for children suffering from teeth defects and simple diseases, eye defects and simple diseases, skin diseases, and ear defects and simple diseases. These classes, it was shown, would include the very large mass of cases revealed by medical inspection—cases, that is, of physical deficiencies and disorders, which could be readily and economically treated at suitable centres conveniently situated in regard to the schools.

This report was rejected, and the County Council, without consulting the medical profession, resolved to resort to the charitable hospitals, and succeeded in persuading some of them to undertake responsibilities which belong to the Council itself, and for the discharge of which the hospitals are not adapted or designed.

Any scheme which proposes to meet the newly recognized obligation of the State to safeguard the health and growth of children by subsidising the voluntary hospitals is obviously wrong in principle, because it seeks to turn hospitals from their proper purpose. The hospitals are magnificent examples of the working of charity in this country; first, of the public charity which gives money, and secondly, of the professional charity which gives the service by which alone the hospitals are of use to the community. To attempt to use them to relieve the State of any part of the expenditure necessary to meet the obligation upon it to maintain national efficiency by preventing the individual deterioration or imperfect development of the youth of the country, which in sum means the deterioration of the nation, is to strike at the root idea of their foundation.

As the scheme of the London County Council is founded on a wrong principle, it is not surprising to find that in the hands of its inventors it proves to be inadequate in scope and inefficient in execution. It is inadequate in scope because the hospitals in London are not evenly distributed throughout the great area of that province of houses, and because the hospitals, being already fully occupied with their proper work, being in fact strained to accomplish it, are not in a position to take over the work of the County Council, even in return for subsidies. Even if this latter objection did not exist, the former would be sufficient to rule the scheme out of court, as was shown when the point was fully discussed in these columns some fifteen months ago, when the actual distribution of hospitals in the metropolitan area was demonstrated by a spot map.[2] The map proved the point up to the hilt, and ought really to have put an end to any serious prosecution of such a grossly faulty scheme by a public body. It no doubt convinced everybody who was not a determined opportunist resolved to clutch at any temporary expedient which might serve to postpone the uncomfortable necessity of dealing in a logical and statesmanlike way with the urgent needs of large numbers of children in the metropolis.

The scheme of the London County Council is inefficient in execution not only because it does not reach more than a small minority of the children, since the vast majority live far out of the limited area in which hospitals were accumulated by our forefathers, but because even in respect of the children it may reach it provides for the treatment of only a very short list of disease conditions, excluding many of the most important, and of only a few children each week. The most remarkable and scandalous exclusion from the County Council's scheme is the care of the children's teeth; this has been done in spite of the fact that the statistics already accumulated, meagre as they are, prove that the amount of dental disease is enormous. We need not enlarge on the evil effects of this on the health and growth of the children. The point was well made by Dr. Harvey Hilliard, but the total failure to deal with it illustrates the inefficiency of the scheme, which from beginning to end makes no serious attempt to cope with the urgent and elementary necessities of our future citizens.

Sir Victor Horsley, after dealing with some of the points to which we have already referred, and stating

[1] BRITISH MEDICAL JOURNAL, December 26th, 1908, p. 1869, and January 9th, 1909, p. 96.

[2] BRITISH MEDICAL JOURNAL, 1909, vol. i, pp. 100–101.

that in the opinion of the Metropolitan Counties Branch the State, through the local authorities or the County Council, should organize a regular school medical service wholly independent of the existing charitable institutions, went on to point out that the Association, after fully considering the principles involved, had wholly condemned the employment of public medical charities, and had approved as a method of dealing with these national requirements the establishment of a school medical service staffed by practitioners resident in the area which the schools served, with the addition of dentists, and where necessary the assistance of specialists. Dr. Howard explained to Dr. Newman the organization which is being established at Norwood, and it was pointed out that a similar scheme has been prepared by the Wandsworth Division, and is in process of evolution at Woolwich, while at Hampstead it is arranged that the treatment of school children shall be part of a larger scheme for a public medical service. The scheme for Wandsworth is published in full in the Supplement this week, and a study of its principles and methods will doubtless prove valuable to those who will have to organize school services in other populous places.

All these carefully-thought out plans, which completely meet the needs of the metropolitan elementary schools, were laid by the representatives of the Association before Dr. Newman, who in reply rather laboured the point that under any other scheme of district school clinics a certain number of medical men in each district must be left out, and that, therefore, there would always be a certain number disappointed. But this argument seems to involve a logical fallacy; there is a suppressed middle—the assumption that all the medical men in a district would wish to serve on the school clinic; some might not wish to serve at all, being otherwise fully engaged; others might not wish to act continuously, but would be willing to take the work in rotation for a definite period of weeks or months. However this may be, this is really not a question for the Board of Education at all; it is a question for the medical profession, which objects to having a scheme for the provision and execution of medical work settled behind its back or over its head. Of such an attempt the scheme of the London County Council is an example on a wholesale scale, and the disappointment of some practitioners which Dr. Newman suggested was an objection to the statements of the Metropolitan Branch is on the proverbial scale of the gnat and the camel, when compared to the injury done to the public and the profession by the London scheme provisionally approved (for a year) by the Board of Education.

Dr. Newman, further, seemed to assume that the scheme of the London County Council consisted of three parts—namely, the resort to hospitals willing to receive a subsidy, the resort to other hospitals which did not demand a subsidy, and school clinics. But as a matter of fact the report of the subcommittee (already mentioned) of the London Education Committee, which recommended the establishment of district school clinics, was rejected by the County Council in favour of the opportunist charitable institutions scheme, the failure of which was foretold to the authorities and is now apparent. The scheme of district school clinics staffed by the local practitioners is really the scheme of the medical profession, as represented by the British Medical Association. The principle with necessary modifications would appear to be perfectly applicable to all populous places; London is a particular case, and the Metropolitan Counties Branch is setting a valuable example by its active protests to the staffs and committees of the London hospitals during the past year, and by the specific organizations established in Hampstead and Wandsworth, and about to come into existence at Norwood and Woolwich. The fundamental principle of the Association has been first to ascertain by a general meeting of the profession in the district what are the local requirements, and what are the views of the profession in the locality; when this has been done, it is found that all the difficulties disappear. The profession has shown itself most ready and willing to organize an adequate system, but it claims the right to organize it in the best way, and equally declines to accept a scheme or schemes thrust upon it from outside.

The scheme of the London County Council has already broken down in the attempt to deal with a very small part of the work which must be done. We can only regret that it has received the sanction of the Board of Education even as a temporary measure, and even for the short period of twelve months. It is true that the Board, in the letter quoted by Mr. Selby-Bigge, explains that it has only sanctioned it with the view of ascertaining how far the proposal embodies, or may be regarded as leading up to, a scheme for attending to the health and physical condition of school children which will be effective, adequate, and economical. The Board has promised to endeavour to form a considered opinion upon the question whether the arrangement is suitable with or without modification for continuation after the experimental period of one year. We submit that the proposal contains none of the principles of an adequate scheme, and cannot lead up to the evolution of such a scheme.

TEACHING, EXAMINATION, AND RESEARCH.

In recent discussions as to the relative prosperity of English and German workers, as to tariffs, and as to the nutritive and economic value of white and black bread, we heard too much of political nostrums, and too little from those who recognize that success depends on research and method, on training and application of intellect. The whole economic history of Germany has been changed by "blood and iron," not, however, in the Bismarckian sense, but by the discovery in 1878 by the British inventor, Mr. Sidney Thomas, of a method of utilizing phosphoric iron ore—a method which made the German iron industry by bringing into use the enormous German deposits of phosphoric ores, and so established Germany as a great manufacturing nation. National wealth and prosperity may be modified in a positive or negative sense by a system of tariffs, but cannot be won thereby, any more than health can be secured by the taking of pick-me-ups and tonics. Wisdom in living and working is the basis of the health of the nation as of the individual, and the ability to live and work depends on the industrial wealth of the land and on the inherited racial qualities of the stock. In the invention of new dyes and synthetic drugs, in the making of microscopes and scientific instruments, the Germans have excelled because their Government has established an admirable system of national education, and because their manufacturers have had the foresight to employ in their works regiments of research physicists and chemists.

We reproduce elsewhere some extracts giving the opinions of Professor H. Armstrong and Sir William Ramsay on research chemists, because the principle by which they are inspired has a very direct application to medical education. The opinions of these two experienced teachers and eminent men of science would, we believe, be echoed by every leader of scientific research, and by all men of open and generous mind who recognize that the aim of education is the formation of character and intellect. In medical education, how much better off than British are German students and professors! The student enters his university after passing a school-leaving examination, and in possession of the excellent training given by his gymnasium. He works at his preliminary and intermediate sciences, and passes an oral and written examination in each science conducted by the professor of that science. He has to satisfy each professor that he has adequately studied his subject. There is no cramming up three or four subjects at one time, no appearance before outside examiners who know nothing of the student's temperament, character, or devotion to work; no element of lottery or chance in his success, no payment of heavy fines in examination fees, no sinking of the teaching down to one cram level. The professor's influence and enthusiasm are left to mould the character and mind of his students. The student is not forced to learn in a superficial and parrot-like manner in order to fulfil the conventional amount of information put in textbooks and required by examiners, but may be trained in honesty and integrity of work. A physiologist at one of the London schools of medicine told us the other day how at a lecture on glycosuria he prepared demonstrations of the qualitative and quantitative tests for sugar, and put up the polarimeter, with lamp and test solutions all ready on the lecture table. Not a single "conjoint" student took the trouble to stay behind and look through the polarimeter; "it did not pay" for the examination in view. The pathologist on the same occasion told us how he had cut an extra series of sections of a malignant pustule which showed the advancing lines of anthrax bacilli and leucocytes in a wonderfully striking manner. Of his class not one took the trouble to mount a specimen; they either thought they were not likely to be asked to "spot" such a section in their examination, or, more probably, they had become so overwhelmed by the names of textbook stuff that they no longer could appreciate, or have enthusiasm for, the best their teacher could give them. The teaching in our schools is lowered to the level of "Does it pay in the exam.?" The question, "Does it make me a wiser man and a better doctor?" cannot with such system be kept in view. If the student were responsible to his teacher, and had to satisfy him by his attendance and by the honesty and care shown in his daily work, he would be far more likely to cultivate a lifelong love of learning and to acquire the essential training in scientific method which the practice of his profession requires. Here is the training which a distinguished railway engineer told us he had passed through from the age of 16 to 21. He spent his daytime in the workshops of Crewe, attending at 6 a.m., and working at the theoretical side of his profession in the Technical Institute from 7 to 10 p.m. He next spent a year firing on an engine, "the best part of his whole training," next two years in the drawing office, and then he was put in charge of wagon works and given the control of the work of testing material. At 25, by a competitive examination against sixty others, he gained the position of assistant locomotive manager in a great Indian railway, and was given control over 6,000 men. Finally, he was made a member of the Institute of Civil Engineers on the merit of his original work.

In such a training the practical side of the profession from the start impels the student, if there is work and character in him, to strive to master not only the technique but the theory and mathematics of his craft. In medicine our students, at the beginning of their career, become the sport of biologists who are not medical men, who use them as the flotsam and jetsam of their seas of learning and oceans of theories; they are taught by physicists who know nothing of the physics required in physiology and practical medicine, and by chemists whose interest does not lie in the problems of physiological and pathological chemistry. The University of London, it is true, has lately tried to establish syllabuses which direct the biology, physics, and chemistry towards the ends of practical medicine. But this is not enough. Biology as taught by non-medical biologists must go. All the biology a student wants can be given him in his physiological and anatomical courses, and in the study of parasitology and helminthology under the pathologist. Chemistry in the future must be taught by the physiological chemist, and physics by the physiological physicist, by medical men who have gone through the whole training and know the needs and aims of practical medicine.

There is, we understand, a movement now in Paris for the abolition of what is called biology from the curriculum, and this is the most immediate and urgent reform needed here. We believe that, like our engineer, the medical student should start with some practical work in hospital or in working-class practice, where he would learn the nature of the human and scientific facts and difficulties with which it will be his life's work to grapple. His interest being thus fired, he should go to the scientists to be trained. He should work at physics, chemistry, anatomy and physiology, and at the same time see what clinical work and methods mean, learning why he is required to study the sciences, and how a practical acquaintance with them will help to a comprehension of the nature and treatment of disease. The chemistry should be knit together with physiological and pathological chemistry and pharmacology, the physics with experimental physiology and instruments of clinical investigation, the anatomy with surgery. In anatomy great reform is needed, for the size of the present textbooks and the mass of useless detail required has reached the limit of pedagogic absurdity.

Great reforms are wanted, and none of them can come about until the teacher is made responsible for his students, until the crammer is done away with, and the student has to qualify by daily work adequately done, not by the lottery of a fifteen minutes' viva voce, and the successful "spotting" of questions. The teachers in the London schools are cursed by the number of examinations for which they have to prepare their students—for the many examinations of the Conjoint Board, for the Fellowship of the College of Surgeons, for the M.B. of London. Proper and thorough teaching is at present inevitably sacrificed to cram courses, and energy and time which might be devoted to practical training and research are wasted in most lamentable fashion. If the two Colleges, acting with or without the University, can only secure

from the present Commission one course of study and the degree which justice demands for all London students, much will be gained.

INVALIDITY INSURANCE AND A PUBLIC MEDICAL SERVICE.

IT was suggested in the JOURNAL a fortnight ago that the time had come when it might be advisable that the British Medical Association should undertake the development of a centrally organized and directed public medical service, and the Special Poor Law Committee, in conjunction with the Contract Practice Subcommittee, is at the present time considering the principles which should guide the formation of such a service. The matter has become urgent, partly owing to the possibility, if not the probability, of legislation at no distant date establishing compulsory sickness and invalidity insurance, and partly owing to the fact that the Minority proposals of the Poor Law Commission will be discussed when the second reading of the Prevention of Destitution Bill, which embodies them, is moved in the House of Commons.

Sir Henry Burdett, in an address given recently before the Home Hospitals Association, has outlined a scheme for a system of co-operation between medical agencies—public, charitable, and provident—which may be taken as the complement of the other suggestion. Looking at the matter as it will affect the interests of the medical profession, it is of paramount importance that in whatever way the co-operative scheme suggested may be organized, negotiations should not be left to be conducted between the State or lay organizations, on the one hand, and individual medical men on the other. The individual would in most cases be pretty certain to get the worst of the bargain, and we feel bound to repeat that there is a fear that isolated local medical societies are not so uniformly strong as to be able to hold their own and to prevent exploitation of the profession. Sir Henry Burdett argues that the free medical relief which the proposals of the Minority Commissioners would entail would undermine and destroy all provident medical clubs and institutions. If that simply meant the destruction of the present ordinary club practice, it would be the best thing that could happen both for the public and the profession, but the Minority proposals would go much further; they are practically incompatible with any form of provident medical service, and it was probably for this reason that the Minority Report declared against any scheme of sickness and invalidity insurance. It is, of course, impossible to compute what the cost of the Minority scheme for a State medical service would be, but the estimate of £15,000,000 a year adopted by Sir Henry Burdett does not appear to be too high. In Germany the cost of sickness and invalidity under the insurance systems, not reckoning old age pensions, and, of course, taking no account of accident compensation, is well over this estimate, in forming which paupers and all whose income is over £100 a year are excluded. Even a slight study of the German statistics must convince anyone that the Minority scheme would entail a burden on the taxpayers and ratepayers so heavy as to be intolerable, for in all probability the proportion of the cost of treatment that would be recovered would be a very small, in fact an almost negligible, quantity.

In an article on the German system of insurance published elsewhere (p. 818) attention is drawn to the wide range of the prophylactic measures undertaken by the invalidity insurance organization. The administration is to a large extent under State management and supervision; everything is done to prevent the undermining of self-providence such as would inevitably follow the realization of the proposals of the Minority Report. In Germany the total cost of invalidity insurance to the State is far less than the expenditure on old age pensions in the United Kingdom. There can indeed be little doubt that with modifications to suit British conditions, and with others shown by German experience to be advisable, some similar system of compulsory State-controlled invalidity insurance would meet all the best requirements of the Minority Commissioners, and would furnish a machinery adequate to secure the co-operation between all medical agencies which is so absolutely necessary to prevent the present wasteful overlapping. Sir Henry Burdett, who has a very extensive experience of hospital administration, agrees with the recommendation that the present out-patient departments of charitable hospitals should be abolished except for casualties and consultations, and perhaps, we might add, for cases needing special equipment, which only a large hospital could provide. The hurried treatment given in crowded out-patient departments under the present system is often from a medical standpoint a snare and a delusion, and the way in which the charitable are gulled by the figures advertised by many of the hospitals of the number of patients treated in the out-patient departments does not speak well for the perspicacity of the public and is a reflection on the hospital managers, who profess that they are compelled to resort to this method to attract donations. Though Sir Henry Burdett is opposed to complete municipalization of hospitals and holds that it is "important that we should maintain the voluntary system of hospital support," he at the same time advocates a measure of State aid or State grants to the voluntary hospitals for building purposes and for providing pavilions for paying patients. The burden thus imposed on the State would not be great if the work were done through an insurance department, as it is to a large extent in Germany, and the flow of charitable contributions would not be arrested, as would certainly happen if the hospitals were municipalized. Nothing could possibly be worse than the present system, by which many municipal corporations give a very small donation and expect a very big return in the way of medical assistance to the citizens; the greater part of the return thus demanded is rendered by medical men who are paid nothing for their services. Nor could anything be imagined more demoralizing than the subservience of many hospitals to the heads of large business firms, who in return for a few guineas a year expect that all their workpeople shall receive free treatment for casualties and even in the wards of the hospitals, and who, as not rarely happens, threaten to withhold their donations if such treatment be not given.

The greatest difficulty in bringing about the desired co-operation will probably be with the lay boards of management. Any State aid or assistance from a State insurance department will rightly involve some measure of State control or supervision of the management. It ought to be a requirement that hospital abuse by the well-to-do should be prevented; and that while every case of accident or sudden illness occurring in public places should receive first aid, all who

can afford to pay for adequate treatment should be referred to private practitioners or to a provident medical service such as might be brought into being in connexion with a large scheme of insurance, which all the poorer members of the community, not actual paupers, should be compelled to join.

Whatever may be thought of the provident dispensary scheme and the voluntary aid committees of the Majority Report—and we should be the first to acknowledge that they have some serious defects—the country will not long tolerate the present state of affairs. The parlous condition of general hospital funds will sooner or later, and sooner rather than later, compel boards of management to accept State control in return for State assistance on any terms that the State chooses to impose; no Government could long resist the strong case made out by the Majority Report for a proper co-ordination of all existing methods of medical relief, on principles that take full account of provident agencies as well as of public and charitable agencies. The organization under the auspices of the British Medical Association of a centrally directed medical service would be a step in the right direction, and would very materially assist in the realization of the system of co-operation on the need for which Sir Henry Burdett insists.

A BISHOP ON VIVISECTION.

SOME antivivisectionists have lately been bestowing their attention on the members of the clergy who are sufficiently enlightened to appreciate the value of scientific experiment and the missionary work on its behalf done by the Research Defence Society. No more striking example of the philozoic infatuation which learns and forgets nothing could be found than the correspondence between Dr. Frodsham, Bishop of North Queensland, and Mr. Alfred S. Hewlett, Chairman of the Church Antivivisection League, which is published in the *Times* of March 30th. Mr. Hewlett tells the bishop that "the faith of very many men and women is being fatally tried by the contemplation of the rulers of the Christian Church, those whom (*sic*) they feel should be the foremost champions of mercy and kindness, not only countenancing but even helping forward a society whose practice involves the most terrible sufferings to thousands of innocent animals." In proof of this, Mr. Hewlett states that in 1908 "no less than 85,883 experiments were upon animals under certificates exempting the operators from using any anaesthetics at all." Putting aside any question of utility in these "admittedly awful" experiments, Mr. Hewlett goes on to lecture the bishop on the error of his ways, calling the Saviour as a witness against vivisection with the self-opinionated confidence characteristic of a certain type of clerical mind. What must make the thing particularly shocking in this case is that the name of Christ is associated with an untruth. The experiments referred to by Mr. Hewlett (which, by the way, were 85,783, not 85,883, in number) are distinctly stated to have been "mostly inoculations," a few having been feeding experiments, or the administration of various substances by the mouth or by inhalation, or the abstraction of blood by puncture or simple venesection. "In no instance," says the Report on Experiments on Living Animals during 1908, "has a certificate dispensing with the use anaesthetics been allowed for a serious operation." In the face of this we do not see how Mr. Hewlett can be acquitted of wilful misrepresentation when he speaks of "these admittedly awful experiments." He speaks of Christ having "by His own sacrifice upon the Cross showed to eternity that the principle which animated Him was the sacrifice of the higher being for the lower, the exact opposite of the *raison d'être* of vivisection." Surely this is the very frenzy of philozoism. Pushed to its logical conclusion, Mr. Hewlett's argument would imply not only that Christ died for beasts as well as for men, but that a horse, for instance, should be sacrificed for a tsetse fly. But we leave these questions to theologians. The bishop shows himself well able to take care of himself. He points out that the Research Defence Society was founded "to make known the facts as to experiments on animals, the immense importance to the welfare of mankind of such experiments, and the great saving of human life and health directly attributable to them." He goes on to say that it was the "rhetorical licence" indulged in by antivivisectionists, and the unfair position in which it placed scientific medical men that led him to accept the position of a vice-president of the society. He adds that he lives in a part of the world where men are attacked by diseases the nature of which is obscure, and that since he has identified himself with the study of tropical diseases he has constantly been approached by sufferers asking whether anything more is known about their maladies. The bishop takes occasion to record the fact that he was, as stated in the JOURNAL of March 19th, largely instrumental in founding an Australian Institute of Tropical Medicine. Of this Dr. Frodsham is justly proud. Pushing the point home, the bishop reminds his correspondent that the position taken up by the League is that of men and women living in England, and therefore not subject to tropical diseases. He asks if in these circumstances they are qualified to sit in judgement upon those whose hearts are stirred by the daily sight of little children wasting with diseases like ankylostomiasis and men and women suffering hopelessly from what might be cured by greater knowledge. Dr. Frodsham concludes by saying that he will be sorry if his actions try the faith of the weakest brother, but he declares that he cannot abandon a position which he believes to be right because certain good people whom he thinks swayed by prejudice and error are offended thereby. May we supplement the bishop's *apologia* by the expression of our own opinion that a faith which is "fatally tried" by the fact that a "ruler of the Christian Church" prefers the welfare of human beings to the comfort of a few animals, must, indeed, be a frail thing. It is, as Rousseau said of cloistered virtue, a thing not worth keeping. For ourselves, we should think the faith of most people more likely to be tried by the readiness to bear false witness against their neighbours displayed by clergymen who preach charity to beasts rather than to men.

MEDICAL EDUCATION IN THE UNITED STATES.

IT is clear from the latest volume of the *Transactions of the Association of American Medical Colleges* that there is a close analogy between the questions chiefly agitating persons interested in the promotion of sound medical education in the United States and in this country, namely, what degree of general education is essential to a medical student and how much professional education can be got into a curriculum of a stated length. There, too, as here, the preliminary sciences seem the chief stumbling-block. Nevertheless, the external differences are very considerable In America even a B.A. degree, it is said, often means "training which is of no account whatever except in the locality in which it is received, and very little there"; while in medical matters every State is a law

unto itself, and in none is there anything on all-fours with the General Medical Council in this country. The Association of American Medical Colleges is a voluntary organization which only co-opts those whose equipment and requirements are deemed of sufficiently high standard. About 40 per cent. of all medical schools in the United States belong to it, and few of the remainder would, it is considered, be eligible for admission should they apply. The minimum requirements are a certificate of not less than four years' education in a high school, followed by a four years' professional curriculum. Some schools, though little content with present conditions, are unwilling that there should be any alteration lest medical students should be tempted to enter institutions imposing a very low standard of general and professional education; but the majority seem to admit that either a better general education must be exacted or the professional curriculum lengthened, or both. The suggestions for improvement are various. One is that no student shall be admitted to an associated college unless he holds a degree in arts; a second that every student besides holding a high-school certificate shall show that he has followed a college course for not less than a year. These suggestions are based on the supposition that students may then prove better capable of absorbing the necessary amount of medicine and surgery in the present prescribed period of four years. A third is that a fifth year shall be added to the curriculum and be devoted to the study of the preliminary sciences, chemistry, physics, and biology. It would appear to be clearly recognized in America that the present tendencies of the development of medical and surgical art demand not less but more knowledge of these subjects than formerly; and it seems fairly certain that whatever other steps are taken, an endeavour will be made to secure this knowledge in students without shortening the time available for anatomy and physiology, and theoretical and clinical medicine and surgery. A further suggestion is that the "Combined course" should be adopted by all medical schools; this was introduced at Columbia University some ten years ago, and is applied not only to medicine but to all the professions. The student, so soon as he has satisfied the authorities in certain compulsory subjects of general education as commonly carried on at universities, is allowed to specialize in any direction he pleases, and eventually is granted both a degree in arts and a degree in the special study taken up by him. In the case of medical students, the combined course covers six years subsequent to the Sophomore, or second year, during which most students complete the compulsory general subjects. Of these, two years are given up to preliminary sciences, and the rest to ordinary subjects of the medical curriculum.

GERMAN RESEARCH ON TUBERCULOSIS.

THE German Imperial Board of Health has recently issued Part X of its investigations on tuberculosis.[1] In the first article Dr. Weber discusses the danger to man of milk and milk products derived from cows with tuberculous udders. He arrives at the conclusion that such danger as exists is very slight in comparison with the risks of transmitting the disease from man to man in cases of open pulmonary tuberculosis. He has investigated the condition of 360 persons (151 children, 200 adults, and 9 persons whose age was not given) who had all been consuming for a prolonged period unboiled milk or milk products derived from cows suffering from tuberculosis of the udder; but in only two families could infection with *Perlsucht* bacilli be demonstrated with certainty. In each of these cases the youngest child had tuberculosis of the cervical glands, whilst the other members of the two families were healthy, although in the habit of consuming raw milk. Dr. Dieterlen writes on the bacteriological characteristics of the tubercle bacilli found in the sputum of phthisical patients. After reviewing the literature, which shows that tubercle bacilli either definitely bovine in type or intermediate between the bovine and human types have occasionally been discovered in human sputum, he relates his own investigations. He examined the sputums from 50 cases of early phthisis occurring in patients at ages varying from 17 to 51 years. In every instance he found that the infective tubercle bacillus was of the human type. Drs. Weber and Titze call attention to the work of numerous investigators which shows that experimental infection with tubercle bacilli can be produced much more readily by feeding than by inhalation. As this fact had been clearly established for guinea-pigs, rabbits, and dogs, while precise comparative experiments had not been performed on cattle, they instituted a series of inhalation and feeding experiments on calves, using measured doses of bacilli. These experiments yielded the following result: "For infection of a bovine by feeding a dose of at least 10 mg. of *Perlsucht* bacilli is necessary, whereas infection through inhalation was established with one-thousandth part of this dose—namely, 0·01 mg. of bacilli." Drs. Weber, Titze, and Jörn report on protective inoculations as a means of immunizing cattle against tuberculosis. Upon the practical utility of vaccination they are not yet prepared to pronounce a final opinion, but they think that one point has already been made clear: it is impossible to rely on protective inoculation alone if we want to gain the mastery over tuberculosis; preventive measures of segregation and protection against contamination must also be adopted. But these additional requirements nullify the main advantage which was claimed for vaccination—namely, the possibility of eradicating tuberculosis without the permanent separation of the newly-born from the old stock, without the necessity for feeding on sterilized milk, and without the expensive procedure of slaughtering animals clinically tuberculous, or of eliminating all those that react to the tuberculin test. Comparing tuberculins derived from different varieties of tubercle bacilli, Drs. Weber and Dieterlen find that for diagnostic purposes there is no difference between tuberculin prepared from human bacilli and tuberculin prepared from bovine bacilli, provided that the same strength of tuberculin is used in each case.

[1] Sonderabdruck aus *Tuberkulose-Arbeiten aus dem kaiserlichen Gesundheitsamte.* 10 Heft. 1910. Berlin: J. Springer. (Imp. 8vo, pp. 233.)

PROFESSOR CHITTENDEN'S EXPERIMENTS.

A VERY trenchant criticism of Professor Chittenden's work, more especially with regard to his observations on the squad of soldiers, thirteen of whom went through an experiment which lasted six months, is published in the February number of the *North American Review* by Charles E. Woodruff. The results of this experiment were summarized in the JOURNAL at the time.[1] It appeared that at the end of the time the men had improved in every respect, although in a few there had been some loss of weight if the man had been somewhat fat at the start. Mr. Woodruff, in the course of his article, which is a somewhat violent diatribe against what he calls "nitrogen starvation," claims to have interviewed these men, and gives a direct denial to Professor Chittenden's statements. He writes: "One said that he felt badly throughout the test, and that his health

[1] February 17th, 1906, p. 399.

and strength improved immediately on stopping it, and that he did not continue the low diet. The second lost 12 lb. during the test and was always hungry, but he regained his normal weight as soon as he returned to normal diet. The third thought he received some benefit, but he returned to normal diet and normal weight. The fourth said his nervous system was permanently damaged; he continued the diet three months, but stopped it because he became weak, nervous, and dizzy, and had frontal headaches. He lost weight, but upon return to normal diet he regained weight and lost his abnormal symptoms. The fifth did not find the diet beneficial in any way, and it was unsatisfying, although he was not damaged so far as he knew. The sixth and seventh merely stated that they did not continue the diet and were in excellent health. The eighth was so impressed with the harmfulness of the diet that he believed he would have died had he continued it. The ninth continued the diet and was in good condition. Surely this is a record to deter other experimenters in the line of starving human beings." Woodruff also publishes the statement of one of the men who declares that with perhaps one exception the men did not keep to the diet, and that "towards the end the men became so weak that the exercises early exhausted them and sometimes many of them were hardly able to reach their quarters." We have no doubt that Professor Chittenden will make an answer to these allegations, but in the meanwhile we may say that the article does not convey the impression of being accurate or trustworthy; it is written in far too violent a style, and the writer's argument is mainly based on the now discredited physiological theory of Liebig that nitrogen is the only food which can supply muscular waste, for, comparing man to a steamship, he says: "The ship is built of many things, but the basis of all is the element iron; for growth and repair iron is to the ship what nitrogen is to man." Further on he says: "In India there is still an opinion that abscess of the liver is due to overeating, but it is now known to be due to infections, and that the well-fed nitrogen-eaters are less liable to it than the starved,"—a statement which, apart altogether from the question of what is the true etiology of abscess of the liver, is entirely at variance with military statistics, which show that whereas dysentery is much more prevalent in the native army than in the European army, abscess of the liver is much more common in the latter. He repeats the kind of statement we have heard too much of on the political platform, that in Germany there is a chronic meat famine, and that horses and dogs are slaughtered to supply the craving of the people for nitrogen. In order, apparently, to meet the undisputed cases of Mr. Fletcher, Professor Chittenden, and his colleagues, Mr. Woodruff admits that "it is surprising the small amount of nitrogen with which old, sedentary men can retain efficiency; but that is another story, for we are here concerned with the danger of insufficient nitrogen until well along in middle life. It has been reported that within a year two college boys have died while subjecting themselves to low nitrogen diet, and in each case the physicians in attendance were of opinion that the lowered vitality from partial nitrogen starvation was the real cause of death. Names and places have been suppressed, as a matter of course, but there does not seem to be any doubt as to the reality of the facts." Whether these facts be true or not, there can be little doubt that up to the period of maturity a larger amount of nitrogen is required than later in life, as was pointed out in our recent article on food and feeding (February 19th); but the question which Professor Chittenden and others have been trying to determine is how much nitrogen is necessary, and the sum of all their numerous experiments goes to prove that 1 gram of proteid per kilo of body weight is a sufficient allowance, so that the Voit standard of 120 grams is excessive for a man weighing 70 kilos (11 st.), although 100 grams would not be too much for a man weighing 100 kilos (15 st. 10 lb).

ALBUMINURIA IN RELATION TO LIFE INSURANCE.

FÜRBRINGER[1] has studied the question of the prognosis of the various forms of albuminuria for many years, and has recently published the results of his investigations, which are based on the work of others as well as his own. He deals with each form of albuminuria separately. He distinguishes orthotic albuminuria sharply from physiological albuminuria and chronic intermittent albuminuria. Physiological albuminuria, he says, is a harmless condition, but care must be taken to exclude early forms of contracted kidney before recommending a person in whose urine albumen appears after severe exercise for life insurance as a first-class life. Orthotic albuminuria, which recently has often been termed lordotic, in its pure forms has also a favourable prognosis. Heubner has demonstrated that the kidney of a patient suffering from this form shows no pathological changes which can account for the passage of albumen, while Jehle was able to show that in some cases the amount of albumen might be temporarily large, and accompanied by epithelial and granular casts, leucocytes, and red blood cells. These facts, Fürbringer argues, indicate that this form of albuminuria must depend on evanescent renal disturbances. Experience has shown that while a considerable number of these patients lose the albuminuria altogether, this does not always happen, and in summing up his conclusion he advises the rejection of orthotic cases for life insurance purposes, as long as any albuminuria can be detected. Proper treatment frequently gives satisfactory results, and it is fairer and wiser to refer persons applying for a policy to their medical practitioner for a time, and to re-examine them at a later date, when they may be accepted. In chronic intermittent albuminuria, with little albumen and long free intervals, the prognosis is good, while cases with high albumen values, casts, and blood must be included in the category of nephritis. Fürbringer next turns to what is termed mild chronic or superficial nephritis, cases included in the group spoken of by von Noorden as benign albuminuria following on acute nephritis. It is difficult to separate this form from the senile. The condition is described as being characterized by an excretion of albuminous urine containing casts and at times some blood. The albuminuria lasts for years, and may be permanent or intermittent, but there are no constitutional symptoms nor does the process appear to progress. The only *post-mortem* observations on this condition so far described were made in a case of Heubner's, in which small round cell and fatty infiltration of the parenchyma was found. Fürbringer considers that it is unnecessary to reject such persons, but in undoubted cases the life should be loaded. The albuminuria of pregnancy is believed by Jehle to be a form of lordotic albuminuria; it does not always disappear after delivery, and in making a prognosis from the point of view of life insurance, it is necessary to remember the possible connexion with eclampsia. The prognosis of albuminuria connected with metabolic and infective diseases, including the so-called congestion albuminuria, should each be considered according to the circumstances of the case. It is

[1] *Deut. med. Woch.*, November 25th, 1909.

pointed out, however, that even albuminuria dependent on toxic absorption from the gastro-intestinal canal may justify a bad prognosis. Chronic constipation may also lead to albuminuria with or without casts. Mention is made of a form of albuminuria which follows palpation of the kidneys. Traumatic albuminuria may closely simulate a spontaneous nephritis, and if it does not terminate fatally in the acute stage, usually clears up altogether. On the other hand, it must be remembered that trauma may adversely affect an existing nephritis. In conclusion, Fürbringer warns the examiner not to refuse a case without allowing a whole year for the determination of the question whether the albuminuria is really chronic.

THE COLOUR FIELDS IN CEREBRAL TUMOUR.

THE diagnosis of cerebral tumour at an early stage is so often obscure that any new diagnostic method is welcome. It is apt to be assumed that the course of these cases is acute, and that unmistakable signs of headache, vomiting, and optic neuritis are rapidly produced. Such is not the case. These neoplasms may run a course measured by years rather than by months, and it is disconcerting that almost every patient brought for operation after the diagnosis of cerebral tumour has been made by the ophthalmoscope, has at one time or other been regarded as hysterical or the victim of some psychoneurosis. According to Parinaud, hysterical amblyopia was recognized early in the seventeenth century, when it was clearly described by Charles Safois. Graefe in 1865 regarded it as a true anaesthesia of the retina, and a few years later Charcot and Labor pronounced the so-called functional defects of vision cerebral rather than retinal lesions. Like Galezowski they associated dyschromatopsia (reversal of the colour fields) with hysteria, and this impression holds sway to-day. Two conditions are generally regarded as pathognomonic of hysteria—concentric contraction of the field and partial or complete colour reversal, the red field being found outside the blue instead of inside it. Granted that these changes are characteristic of hysteria, it appears from the researches of Bordley and Cushing[1] that they are no less so of cerebral growths. These authors, who began to make conjoint observations of brain tumours in 1902, have come to look upon colour reversal as a most valuable symptom in an early stage of this disease. They found no definite relationship between the contraction of the field for form and that for colours. Some patients showed a concentric contraction with colour reversal such as Parinaud regards as the "essential sign of hysteria"; but the usual early return of the normal relations after the pressure symptoms have been relieved by operation suffices to controvert the view of their being "hysterical" in the usual application of this term. Another group of cases showed not only concentric contraction of the form fields in association with dyschromatopsia, but likewise peripheral limitation of the fields, relatively greater in the form than in the colour fields; in these cases the red was apt to be less affected than the blue. This condition has been stated to be found in hysteria alone, and in no other condition. There have been other cases in which the contraction for form and colours go hand in hand, with the exception that the blue is almost invariably much more affected than the red. In fact, the prominent feature is the contraction in the blue field, a change which may eventually lead to total blue blindness. This blue blindness is apparently brought about by the formation of peripheral scotomata which gradually coalesce. No scotomata for red and green have been seen. It is interesting to note that, as pointed out by Köllner,[2] red and green blindness are the result of lesions in the nerve-conducting paths; blue blindness results from exudative diseases of the retina affecting the light-perceptive elements. Hence in tabes, multiple sclerosis, diseases which cause lesions in the nerve tracts, we get red and green scotomata, and ultimately blindness. Cushing has in a number of cases observed complete colour blindness. He states that the colour disturbances do not seem to depend upon neuro-retinal oedema because in four of his patients they preceded any appreciable ophthalmoscope changes. We would, however, submit that they do depend upon retinal exudation, and a study of another paper by Köllner on acquired violet blindness[3] will support the view. There may be considerable changes in the retina before they become sufficiently pronounced to be detected by the ophthalmoscope. Cushing failed to find any alteration in the visual fields in six cases of cerebral tumour. His paper, which is a very valuable contribution to the subject, is accompanied by reproduction of the visual fields showing the changes which were found to be most typical. In future it will be essential to investigate the colour fields in all suspicious cases, and it will be advisable not only to use the ordinary perimeter, but also the far more accurate scotometer devised by Bardsley of Salisbury.

[1] *Archives of Ophthalmology*, September, 1909.

HOSPITAL ALMONERS.

THE Hospital Almoners' Council came into existence some two years ago to undertake the task of finding suitable persons to act as hospital almoners, and directing and superintending their training. Its aims and methods are described in detail at page 818. It takes a very high view both of the personal qualities desirable in a hospital almoner or supervisor of the legitimacy of the claims of those who apply to any institution for treatment, and of the preliminary education which the candidate should undergo. It is clear, too, though not expressly so stated, that the council considers that the work should be performed mainly, if not entirely, by women, a point on which nowadays, when women are so commonly employed in not very dissimilar work by health and other authorities, there is unlikely to be much difference of opinion. Where the views of the council might possibly not meet with ready acceptance in some quarters is in respect of the scope of the work which it would have a hospital almoner perform—the desire being apparently that she should not be simply an excluding agent, but one who will do something towards securing that the efforts of the medical staff are not wasted by inability or negligence on the part of patients to pay attention to the advice given. It might be argued that, unless provided with a considerable number of assistants, no hospital almoner could well carry on simultaneously the two duties. If this combination is, however, possible, the results would no doubt be beneficial, and every one will approve the desire of the council that the work of a hospital almoner should lessen the overlapping of effort, and bring about greater co-operation between charitable enterprises of corresponding aims.

POOR LAW REFORM.

IN accordance with the recommendation of the Royal Commission on the Poor Laws and Relief of Distress that the Poor Law Orders which have been issued from time to time by the Poor Law Commissioners, the Poor Law Board, and the Local Government Board should be revised and consolidated, the Presi-

[2] *Zeitschrift für Augenheilkunde*, September, 1908.
[3] *Zeitschrift für Augenheilkunde*, Ergangungs Heft, 1908, and March and April, 1908.

dent of the Local Government Board has appointed a Departmental Committee to assist him in this matter. The Committee consists of Sir S. B. Provis, K.C.B., Mr. J. S. Davy, C.B., Mr. W. T. Jerred, and Mr. Thomas Smith, with Mr. F. L. Turner and Mr. H. W. S. Francis, of the Local Government Board, as joint secretaries. The first work which will be undertaken by the committee is the revision of the orders relating to the administration of outdoor relief. This is work very necessary to be done, and may perhaps be taken as a first step towards realizing the recommendations of the British Medical Association, that a Departmental Committee should be appointed for the consideration of the organization of medical assistance as a separate problem, and specially the co-ordination and systematization of the work of the various agencies now administering medical assistance to persons in sickness.

WE regret to record the death on Good Friday of Dr. W. B. Cheadle, consulting physician to St. Mary's Hospital and the Hospital for Sick Children, London.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Water Supplies Protection Bill came on for second reading in the Lords last week; Lord Desborough reminded the House that the bill was read a second time last year but made no further progress. He understood that the Government now took a more favourable view of the measure. Its first principle was that no water company should sink wells or construct works for obtaining a supply unless those wells and works and the sites thereof had been expressly approved by Parliament. The second principle was that compensation should be due to owners of private supplies injured by the abstraction of water for a public supply by means of future works; and the third principle was that districts whence water might be taken and through which it might be conveyed by means of future works should have a right to a share of the water upon terms to be agreed upon or fixed by the Local Government Board. The Earl of Verulam said that experience gained in Hertfordshire of the results of the depletion of local and private sources of water supply as a result of the works of large water companies led him to support the motion. The Earl of Liverpool said that the Government had no objection to the bill being read a second time on the understanding that it would be referred to a committee of both Houses of Parliament to consider the subject generally. The points at issue were of great importance, and it was hoped that the consideration of them by a joint committee would lead to some practical proposals being made with a view to putting matters on a satisfactory footing. The bill was then read a second time and referred to a joint committee.

The Public Health (Provisional Orders) Bill got an unexpected chance of coming on for second reading on Tuesday night, and was moved by Mr. W. Thorne; but Sir F. Banbury wanted an explanation of the objects of the bill, and pointed out the necessity for a thorough explanation of its provisions. He was speaking at 11 o'clock, and so the debate stood adjourned and the chance was lost.

The Public Health Acts Amendment Act, 1907, and Rural Districts.—Last week Colonel Rawson asked the President of the Local Government Board whether, having regard to Section 3 of the Public Health Acts Amendment Act, 1907, the Local Government Board would introduce legislation to repeal Section 19 of the said Act, on the ground that it was not generally applicable to the circumstances of a rural district, or whether the Board had taken or would take any steps to amend the said section so as to make it applicable to the circumstances of a rural district. Mr. John Burns replied that it was not to be inferred from Section 3 of the Public Health Acts Amendment Act, 1907, that every section of that Act was to be regarded as applicable to the circumstances of a rural district, and at the present time he did not see any adequate reason for proposing legislation to amend Section 19 of the Act, as suggested.

The Death Certificates (Charges) Bill, which provides for a reduction in charges for death certificates in certain cases was introduced by Mr. Gill last week, and put down for second reading on April 5th. The bill is backed by Mr. Arthur Henderson, Mr. John Taylor, Mr. Parker, Mr. Shackleton, Mr. Tyson Wilson, and Mr. James Haslam.

The Salary of an Inspector of Nuisances.—On Tuesday last, in answer to Sir Fortescue Flannery, Mr. Burns said that the area of the Tregaron Rural District was 121,545 acres, and the population, according to the last Census, was 7,947. The inspector of nuisances, who was required to devote the whole of his time to his duties, was paid a salary of £50 a year. The appointment had been sanctioned by the Local Government Board. The salary was more than was previously paid to the officer, but he could not say that he regarded it as adequate remuneration for an inspector of nuisances devoting his whole time to his duties.

Anthrax.—Mr. Barnston asked the Parliamentary Secretary to the Board of Agriculture whether, in view of the increase in the outbreaks of anthrax throughout the country, the Board would institute an inquiry as to the best means of exterminating the disease. Sir E. Strachey said that the Board's veterinary officers were continuously engaged in making inquiry as to the causes of the spread of this disease, and as to the measures that could most usefully be taken to control it. The Board was also considering what steps could be taken to bring about a more uniform and efficient method of diagnosis. He did not think that a general inquiry on the subject at the present time would be likely to be attended with any beneficial results.

Hospital Equipment for Territorial Force.—Last week Mr. Haldane stated that the whole question of hospital equipment was under consideration. This was in answer to Lord Valentia, who asked whether a grant could not be made for this object, in view of the fact that on mobilization some county associations were ordered to provide within a week a fully-equipped general hospital, the administrator of which was expected to arrange for having a call upon local tradesmen for hospital equipment, drugs, and surgical appliances besides fittings for a building in which to store them; that the local tradesmen appeared unwilling to set aside the requisite stock owing to the inconvenience, to them of locking up the capital required, and that the county associations were precluded by C. M. 221 from incurring any expenditure on purchase, storage, or other provision for equipment.

The Course of Business.—Now the debate on the Veto resolutions of the Government has begun, it will be continued from day to day, with the exception of the time allotted to private members' bills and motions on Wednesdays and Fridays. Next week the division on going into Committee on the Veto proposals is expected to be taken on Monday, and the debate on the first resolution in Committee will occupy Tuesday and Wednesday. On Wednesday evening there will be a debate on Tariffs raised by a motion of Mr. Hamilton Benn, and on Friday the whole sitting will be occupied by the Prevention of Destitution Bill, which is down for second reading. Mr. Ormsby Gore proposes to move that it be read a second time six months hence.

New South Wales.

[FROM OUR SPECIAL CORRESPONDENT.]

SYDNEY.

Chest Development in Boys.

THE New South Wales Branch of the British Science Guild recently appointed a subcommittee, consisting of Dr. G. H. Abbott, Surgeon to the Royal Prince Alfred Hospital, Sydney; Dr. Quaife, a specialist in diseases of the ear, nose, and throat; Mr. John Marden, M.A., LL.D., Principal of the Croydon Ladies' College; and the Rev. C. J. Prescott, M.A., the Principal of Newington College for boys, to report upon the provision of open-air space for school children in Sydney and its suburbs. Its report has just been printed and circulated, and states that the committee investigated a number of points in connexion with the physical development of boys in New South Wales, and compared the results with those of other countries. They found: (1) That the average girth of English boys round the chest at the nipple line is roughly 3.6 in. more than that of boys of New South Wales at 17 years of age. (2) Tasmanian boys have always measured rather more than New South Wales boys round the chest, and at the late age of 16 or 17 years they come to approximate the English average. (3) The chest growth of the New South Wales boy is at all ages much less than that of the Washington boy—namely, at 9 years nearly 1 in., at 10 years more than 1 in., between 13 and 15 years 1½ in. or more. (4) As a result of this, the lung capacity of New South Wales boys averages at all ages much less than that of the American boys, and the deficiency varies from 500 c.cm. at 9 years of age to 625 c.cm. or more at 17 years. The committee found it difficult to give a complete estimate of the causes of this devitalizing condition, the factors at the disposal of the committee being too indeterminate, but offer the suggestion that the habit of the young Australian of leaning against lamp-posts and door-posts, or the difficulty with which he can be got to walk for an outing so long as there is a conveyance to be had, or his inveterate custom of supporting the games of cricket and football by leaning across a fence or resting his manly form upon a shaded bench while he bets upon the odds or barracks more or less enthusiastically, have to be considered in this connexion. Whether these habits are causes or consequences of the anatomical condition it was not possible to say. If consequences, they cannot but react unfavourably while unchecked; if causes, they can be obviated by practice and example directed upon the growing child, especially at its earliest years. The committee, therefore, believing that the tendency of Australian youth towards narrowness of the chest is a serious evil in national life, and that it is capable of being greatly relieved, if not removed, by the encouragement of open-air pastimes, in which the children will be induced to exercise spontaneously their intelligence as well as their physical powers, formulated the following proposition:

> Seeing that the chest development (both in cubical capacity and in girth) among the New South Wales boys and girls is much lower than it ought to be, and than pertains in other civilized communities, and seeing that chest measurement is one of those normalities that are a prominent factor in intellectual strength and mental calibre, it is highly desirable that there should be set apart playing fields for children in every suburb of Sydney. These fields should not be less than 3 acres in extent, and should be laid down with a level sward of grass, without trees, save around the boundaries. On these fields children, free from all adult interference, should be encouraged to play all sorts of games in which running is a necessary part. Around every field there should be laid down a running track where boys might regularly train and indulge in running exercises free from all interference. These children's parks should be established in every part of Sydney and suburbs, if possible by the municipal authorities, and should be under municipal control.

At a meeting of the Executive Council of the Guild subsequent to the reception of this report, the following resolutions were adopted:

1. That the attention of the Government and municipal councils be drawn to the supreme importance of providing areas specially set apart and adapted for the purpose of healthy games, it being understood that such areas should be left bare of trees and flowers, save on borders, and should be provided with running tracks and facilities for cricket, football, lacrosse, basket-ball, and similar games.
2. That as the principle of taxing the unimproved value of land is a direct discouragement to schools to provide such areas, representation should accordingly be made to the Government and to municipal councils to allow some substantial concessions to all bona fide schools providing adequate playgrounds, such playgrounds being, like parks, really a guaranty of the people's health.

Sydney Hospital.

The report submitted to the annual meeting of the subscribers to the Sydney Hospital, while favourable as regards the amount of work done and even as regards the financial transactions for the year, called forth strong remarks from some speakers. Over 3,700 patients passed through the wards in the year, and 3,365 operations were performed. In the out-patient department 18,107 new cases were treated, with 72,348 attendances. The proposal to widen Macquarie Street would, the board stated, involve the cutting away of most of the front lawns, the removal of the lodges, the bringing of the street up to the front steps and much closer to the wards, but as the alteration appeared to be necessary under the general scheme for the improvement of the city, the board had not advanced any objections; it had, however, made an urgent appeal to the Government for more land along the domain frontage of the hospital grounds—which is of little value—as an equivalent for the very valuable land along Macquarie Street of which it is proposed to resume possession. The financial statement showed that for the year the expenditure had amounted to £28,229 as against £27,623 for the year 1908, showing an increase of £606; but the income amounted to £27,722, as against £23,919 for 1908; this improvement in income, however, resulted from a special grant from the Government of £1,000, a larger donation from the Hospital Saturday Fund of £1,250, and £919 obtained by special appeal to the citizens. In commenting upon the report and the financial statement, it was remarked that the list of subscribers was very small, and the response to appeals was nothing like what it should be in a wealthy city like Sydney. Unless the response of the public was more generous than it had been the work of the hospital would have to be circumscribed. The nurses were overworked and improperly accommodated, and the public were implored to augment the funds. Lord Chelmsford, the State Governor, in responding to a vote of thanks for presiding, referred to the financial position specially. He noticed from the report that although the revenue had increase last year, the expenditure had gone up also. But while this expenditure had gone on increasing, and had to be faced by the general public, the subscriptions remained a more or less stationary quantity. The balance sheet showed that the hospital had had a specially favourable year, but special efforts had to be made to bring about this result, and the hospital could not live upon special appeals. Meanwhile it had an overdraft of £11,000 at the bank, which had to be met. The policy of drift was not one that should be followed, and the sooner the committees of the large hospitals met to devise some means of overcoming the difficulty the sooner would a sound policy in regard to this great question be evolved. It was a matter that would have to be faced, and it would be infinitely better to take it in hand without delay rather than evade the question until panic legislation had to be resorted to.

Female Medical Inspector under the Factories and Shops Act.

The Public Service Board of New South Wales has recently appointed a lady graduate in medicine of the Sydney University as an inspector under the Factories and Shops Act. Shortly after the Act was passed in 1896 a woman inspector was appointed, and now a second woman inspector—a qualified medical woman—has been appointed. This appointment is a sign of the

growth of the industrial side of the city. At the end of 1897, after the first year's experimental working of the Act, the number of female workers in the city was 7,009. Now, twelve years later, the number of female workers is 201,725. The conditions for women workers in the city have been much improved during the past twelve years, and factory owners find that it pays in the long run to set their hands to work amid pleasant surroundings and favourable conditions. While the responsibility of guarding dangerous machinery and the prosecution for breaches of the law are left in the main to male inspectors, the woman inspector has an abundance of important work. As regards the general laws of health, it is her part to see that in all factories and workrooms where women are employed there is a sufficient amount of air space for each worker, that the rooms have proper ventilation, good sanitary arrangements, that they are kept clean and regularly limewashed, and that the health of the employee is safeguarded in various ways. She has to see that employees receive the proper amount of overtime money, tea allowance, etc., also that overtime does not exceed thirty nights in the year, and that no one is employed in workroom or factory who does not receive the sum of four shillings weekly. All employers are compelled to keep record sheets open for examination at any time by the inspector. No one must employ a child under 14 years of age without a special permit, and no one under 16 years can be employed in a dangerous class of factory without a medical certificate of fitness. Women workers must be provided with seating accommodation, also with a dressing room, where they can change their outdoor for indoor dress. The hours of labour must be strictly observed, and a proper length of time allowed for meals.

Women Graduates in Medicine in Sydney.

At the examinations held last December at the Sydney University for the degrees of M.B. and Ch.M. three women graduated with first-class honours in medicine and surgery, one with second-class honours, and one with credit. Altogether seven women obtained degrees in medicine and surgery. In consequence of the high position obtained by these ladies, they had first claim on the resident appointments at the Sydney and Royal Prince Alfred Hospitals, and they are now actively engaged in the discharge of their duties in these offices. So far they have done admirably from all accounts, and perhaps our Manchester friends, who appear to have taken such a decided stand in opposition to the principle of women residents, would like to learn in twelve months the result of our experience here. On previous occasions we have had women residents, and no exception has been taken to them.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

PRESENTATION TO PROFESSOR OGSTON.

THE committee in charge of the presentation portraits of Professor Ogston request intending contributors to forward their subscriptions at an early date to the Honorary Secretary, Dr. Mackenzie Booth, 1, Carden Place, Aberdeen.

EGYPTIAN EXPLORATION.

In an address on recent excavations in Egypt delivered in the Royal Scottish Museum, Edinburgh, Professor Flinders Petrie, explaining the general arrangements of the work in Eygpt, said that Memphis was by far the most important site in the country; it had been neglected hitherto owing to the great difficulties and expense of working it, a large part being under cultivation. Last year, when a beginning was made, £1,000 was spent in direct wages, but compared with what was to be done that was a mere drop in the bucket. The chief result was the finding of the great palaces of Memphis, one on top of the other. Last winter work had been carried on in the northern end of the great cemetery of Thebes. Five or six acres of soil were very carefully turned over, and only one single burial found, but that repaid them for the whole. It was, he thought, the finest single group anywhere in the world. Besides the gold work there were the personal belongings of the lady buried there—the headdress and toilet, alabaster vases, and the food that was buried with her—dates, raisins, bread—the whole personal belongings of a high-class Egyptian. Then there was a unique series of vases in their networks. There was also the funeral furniture buried with the body—the stool on which she had always sat, with one corner worn by use, and the little footstools. These were the things in daily use about 1600 B.C., and were particularly interesting as illustrating the actual life of the people and the things in constant use which served as the regular surroundings of the family life of the time. Professor Petrie afterwards showed a series of limelight views illustrative of the results of the excavations at Memphis. The palace was 400 ft. long and half as wide, and was preserved to 10 ft. or 15 ft. high. A large part of the work had been devoted to the temple of Merenptah in the foreign quarter. The capitals were of the style of the fifth dynasty, and formed of the buds of the rose lotus, a type not found before, and only known from scenes in relief. Another temple of Merenptah had also been found; four whole columns stood upright. The temple of Ptah had also been worked, but mainly to exhaust the chances in some ground before using it to dump upon in future excavations. The building of Si-amen had yielded inscriptions of Osorkon; but, as fragments of much earlier work were found, the clearance awaited some deep pumping at the end of a season. The pottery models of heads of foreigners had again been found this year; Karian, Spaniard or Sardinian, and Bactrian could be identified, also many varieties of Greeks and many other races.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MEDICAL EDUCATION.

THE subject of medical education has received a good deal of attention this year in Dublin, and already two interesting papers dealing with the curriculum have appeared in the *Dublin Medical Journal*, while others, we understand, are in process of preparation. Amongst the schools, the College of Surgeons appears to be the only one so far to have embarked upon any formal discussion of the matter, and to help the college in its deliberations a scheme has been promulgated by its Professor of Anatomy, Dr. Geddes. This scheme is ambitious and contains suggestions not only in relation to the medical curriculum, but also as to how professors should be controlled and, if necessary, made to work. The ideals that should be aimed at in medical teaching are also clearly and dogmatically stated, and a contrast drawn between the aims of the professorial and clinical teachers. Some of the suggestions made by Professor Geddes are interesting; the duties which it would fall to the lot of the professor of anatomy and his assistants to perform are multifarious, for they would include biology, histology, ordinary anatomy—including a fifty hours' course in embryology—and operative surgery, while, if we mistake not, he should be expected also to endeavour to give his pupils an understanding of the facts of life, and possibly a little knowledge of physiology. As a help towards the attainment of these objects Professor Geddes believes in weekly class examinations and making the class work of each student count towards his pass in the final examination in each subject. The physiologist, in addition to his ordinary work, is to teach the student the use of such clinical instruments as the stethoscope and ophthalmoscope. After this preparation the student is to commence in his third year the study of pathology and his hospital work. All systematic lectures in medicine, surgery, and midwifery should, Professor Geddes believes, be

abolished, because they serve no real purpose and absorb time; he would substitute a system of medical and other tutorships; the tutors would examine and question students in the schools on clinical records of cases examined by them, but which, under the system in vogue in Dublin, the tutors would not themselves have seen. In regard to the subsidiary subjects he believes that a great deal of what is called materia medica is obsolete; the therapeutical part could be covered in the class of practical physiology by the professor of physiology, while most of the remainder should be learnt practically in a dispensary. Public health work should fall to the lot of the pathologist, but sanitation and forensic medicine should be dealt with in a separate three months' course. This brief outline gives only a sketch of the important alterations proposed. Its distinguished author is, we believe, quite serious in his suggestions, but the College of Surgeons will probably hesitate long before adopting a scheme which would dissociate the teaching of operative surgery from all contact with clinical work and which would throw into the hands of the physiologist the teaching of therapeutics and the application of clinical instruments.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER AND DISTRICT.

THE ANCOATS HOSPITAL.

THE board of management of the Ancoats Hospital has just issued a special appeal in the form of a pamphlet, well printed and illustrated. The work of the institution, founded in 1828 as the Ardwick and Ancoats Dispensary, steadily increased until in 1885 the building was enlarged and in-patients were provided for. Since then further extensions have been made, and though the board claims to have pursued a course of the most rigid economy, the financial position has steadily grown worse until there is to-day a debt of nearly £8,000 owing to the bank. In 1909 no less than 21,351 accidents were treated, which is an average of 58 fresh cases every day, but during that year the hospital did not receive a single legacy. This is a notable fact, and as the board points out, it seems to prove that although the hospital is placed in the very spot where it is most needed, it is in a district not often visited, and therefore seldom seen, by those who generously give to the support of charitable institutions. The district is without doubt one of the poorest in the city, and there are no rich people living in it now. The removal of the Royal Infirmary to Oxford Road in December, 1908, has had, as was foreseen, the result of causing many serious and urgent cases which would have gone to the old infirmary to be taken to the Ancoats Hospital. This is well shown by the fact that the number of casualty cases has risen during the past year from 14,595 to 21,351. The patients come from all parts of Manchester, and the board claims that it makes a rule of inquiring into the social position of all the patients, and finds that no more than 2 per cent. are able to contribute more than a few pence to the funds. In connexion with the hospital is the Ancoats Convalescent Home at Warford, near Alderley, splendidly situated and well equipped, and with a committee of ladies who are of the greatest assistance. The 136 beds in the hospital and the convalescent home are all occupied, and there are always cases waiting for admission. It is claimed that the *x*-ray and electrical department is perhaps the most complete in the city, while the clinical laboratory and the bacteriological department make the hospital in every way efficient and up to date. The board of management states that to put the finances on a sound footing, in addition to an increased subscription list of £1,200 a year, £20,000 at least is required to repay the debt to the bank and to consolidate the endowment fund.

HOPE HOSPITAL.

As was announced in this column on February 26th, the warning notice about Hope Hospital which had been appearing for the previous seven months was then withdrawn, as the Board of Guardians had conceded all the claims of the Salford Division. On three previous occasions when the guardians had advertised in the public press the post of resident assistant medical officer there had been no candidates forthcoming, but no sooner was the warning notice withdrawn than the guardians had a fair number of applicants both for the post of medical superintendent and the two posts of assistant medical officers. Mr. J. Hindshaw, M.B., Ch.B., surgeon of the Ebbw Vale Cottage Hospital, and late senior resident medical officer to the Bagthorpe Infirmary, Nottingham, was appointed medical superintendent, and the two assistant medical officers appointed were Mr. F. M. Boag, M.B., Ch.B., who has been acting as locumtenent at the hospital, and Mr. K. K. Grieve, M.B., Ch.B. A few days before the board met for the appointment the *Daily Dispatch*, in a short article, made the very innocent remark that a settlement of the dispute had been arrived at as an outcome of negotiations with the British Medical Association. This apparently touched the dignity of the chairman of the hospital committee, who denied in the board meeting that there had been negotiations with the British Medical Association, and he asserted that all the communications received from the British Medical Association had been placed in the wastepaper basket as material of no use to the board. Another guardian protested against the assertion of the chairman of the hospital committee that there was not a scintilla of truth in the statement of the *Daily Dispatch*, and pointed out that when the guardians learnt of the withdrawal of the warning notice, which was notified to the Clerk to the Guardians by the Honorary Secretary of the Salford Division, they sent a fresh advertisement which was then accepted by the BRITISH MEDICAL JOURNAL, and as a consequence they had been able to obtain candidates which they could not obtain before. It is perfectly true, though it is by no means to the credit of the guardians, that they persistently refused any information to the Salford Division as to their intentions, and the Division has been compelled to make known its demands through the public press. But the chairman of the hospital committee has on several occasions himself replied in the press to these demands, and it is known on the best authority that the opinions of the Division have been fully discussed by the hospital committee. One member of the board claimed that the guardians would have made the present arrangements in any case, but two facts are sufficient to show what probability there is in this statement: first, the fact that after the chairman had very severely criticized and rejected the claims of the Division, the guardians again advertised in the daily press for an assistant medical officer on the terms which the Division disapproved; and, secondly, that only when the guardians were quite unable to obtain candidates did they alter the terms and accept in every particular what the Division had asked for from the very first. This ought to be quite sufficient evidence as to what would have happened if the Division had not persisted in its claims. It is matter for regret that this explanation should have been necessary, as the Division has not the slightest desire to make any public boast of what has been done; but the intentionally insulting remarks of the chairman of the hospital committee, which were reported in the press, were, by suppressing the essential facts of the case, calculated to mislead the public, though it is perfectly evident that the editor of the *Daily Dispatch* fully understands the situation.

LIVERPOOL.

TREATMENT OF SCHOOL CHILDREN.

THE annual report of the Stanley Hospital, the forty-third since its foundation, shows a steady advance in the work done. A new *x*-ray apparatus has been

installed, and the president, Sir Percy Bates, has generously undertaken to provide the salary of a pathologist for two years at his own expense. At the annual meeting the question of the treatment of school children found defective by the medical inspectors was raised, and the chairman said that the hospital was not intended for testing the children's sight, which was part of the education authority's work, and ought not to be done for nothing. He hoped to bring the matter before the Voluntary Aid Council with a view to united action being taken by all the hospitals of the city. The Lord Mayor, speaking as a member of the Education Committee, said that when a child was found to be defective in its sight the Education Committee paid for its spectacles, but they ought also to pay the hospital. Sir Percy Bates replied that it was not a question of money, but a question of the time of their medical men which was taken up.

NEW DENTAL HOSPITAL.

The new Dental Hospital, which has been under construction for more than a year, was formally opened on March 21st by the Earl of Derby. The building, which has been built from the designs of Mr. G. de C. Fraser, is a handsome structure, and situated in Pembroke Place, nearly opposite to the entrance to the Royal Infirmary. It is almost ready for occupation, and the removal from the old premises in Mount Pleasant will be completed in a few days. The building has been well planned, and provides all needful accommodation for conservative dentistry and for the provision of dental appliances, as well as for the inevitable extractions. Among the apartments are a large waiting hall, anaesthetic rooms, laboratories and workshops, students' rooms, lecture hall, with a museum and a library, and on the top floor a well-lighted operating room, fitted with dental chairs. The cost of the building will be about £10,000, of which £8,600 has already been subscribed. Lord Derby said that it was impossible for many professions, particularly the army, to do their work satisfactorily unless the teeth were in good condition. Statistics of the number of men invalided home from the South African war, from causes directly and indirectly attributable to bad teeth, showed how great had been the loss to the nation owing to proper provision not having been made for the protection of the teeth of the youth of the country. The same thing applied to the community as a whole. At the Liverpool Dental Hospital about 30,000 cases were dealt with annually, but he was told that that number barely touched the fringe of the situation, so far as concerned the poor people of Liverpool. Professor A. M. Paterson, the Honorary Treasurer, said the people of Liverpool were proud of their new Dental Hospital, which was the best and cheapest dental hospital ever built. He paid a tribute to the Warden, Mr. W. H. Gilmour, for the great services he had rendered during the construction of the hospital. Mr. W. H. Gilmour said that while every provision was made for the extraction of teeth, the staff did not look upon that as their great work. Their main endeavours were for the preservation of teeth. Vice-Chancellor Dale said that of all the institutions carrying on a beneficent work in Liverpool none was doing a more lasting or a more valuable work than the Dental Hospital.

WEST YORKSHIRE.

THE BRADFORD SCHOOL CLINIC.

WE have received the following letter:

Sir,—

Kindly allow me to correct the very erroneous impression of the Bradford School Clinic given in the account of the Bradford Divisional meeting, and may I say the equally erroneous impression of the proceedings at the meeting?

It is quite unfair to state that "cases whose parents are well able to pay are being constantly treated at the clinic"; it is equally unfair to state that Dr. Wherry Willson gave numerous instances of these cases.

What Dr. Willson did was to indulge in a fusillade of invective against the clinic and its staff, embracing every use, misuse, and abuse which this unfortunate institution ever did, can, or may perpetrate, from the terrible consequences to children's brains following *x* ray treatment of ringworm to the sad, if not so tragic, pictures of little children treated by men, not only incompetent, but devoid of common sympathy. As one of the guilty party, I was naturally impressed and amused by this latter statement of my shortcomings: the result, we were told, of want of any experience in private practice.

As I was at the time absolutely a stranger to Dr. Willson, and have had at least ten years in general practice, I presume he was as careful in his search after truth in this detail as he seemed to be in 90 per cent. of his statements, which, by the way, commenced with the announcement that a school dentist was appointed on the staff—an appointment existing only in Dr. Willson's imagination.

I also note that Mr. North and Dr. Williams controverted "some" of the statements; they would have controverted more had those statements suggested that the smallest trouble had been taken to ascertain whether there was a semblance of fact behind them, and your correspondent omits to state that part of the refutation was the announcement that one member of the school staff had in three weeks sent 350 notices to parents in Bradford requesting them to take their children to a medical man without delay. Surely this might have received mention.

Lastly, Dr. Metcalfe deplores the unnecessary caution shown by the staff in refusing to accept medical certificates as "sufficient evidence of a child's fitness to return to school." Your correspondent, again, omits a statement made in answer to this, that of cases of ringworm certified as cured in 72 per cent. the disease was still present, and that 25 to 30 per cent. of cases of scarlet fever, diphtheria, or contacts certified as free from infection were in an infectious condition.

Your correspondent concludes with the fervent hope, shared by his colleagues, that matters will improve. I am sure we all cordially endorse the sentiment; let us hope that some of the improvement will be in the direction of more accurate representation of other men's work, and perhaps a little more charity in the manner of expressing it.

CHARLES H. W. MCCULLAGH.

Bradford, March 22nd.

BIRMINGHAM.

AN EXPERIMENT IN THE REDUCTION OF INFANTILE MORTALITY.

THE Birmingham Women's Settlement instituted a Guild of Mothers with the object of trying to reduce infantile mortality in its district. The following is an outline of the scheme:

(1) To appoint a paid lady superintendent fully qualified to undertake the work; (2) to organize a band of voluntary lady visitors working under the lady superintendent; (3) the visiting of mothers and expectant mothers in the district to advise them as to the best methods of rearing their babies, and to induce them to adopt those methods; (4) the holding of weekly "at homes" for mothers and babies when a medical adviser was present; (5) the arranging for sewing and working classes; (6) co-operation with municipal and other agencies aiming at the welfare of the mothers and babies, and at the decrease of infantile mortality.

The accommodation at the Women's Settlement for the "at homes" for mothers and babies soon proved very limited, but much useful work was started. No treatment, medical or otherwise, was given, but the mothers were advised as to the best method of dealing with their babies' illnesses, and the help of charities, hospitals, dispensaries, or parish was recommended, according to the case. The lady visitor or the superintendent followed up the cases and saw that the suggestions were carried out, thereby teaching the poor how best to help themselves. In all 402 mothers with their babies came under the influence of the guild in its first year of work. The continued attendance of some of the earliest members and the gradual increase in the number of fresh attendances have been encouraging facts, showing that the efforts of the guild are appreciated by those on behalf of whom the work has been organized.

AT the annual meeting of the Governors of the Charnwood Forest Convalescent Homes, held at Loughborough, Mr. G. C. Franklin (Leicester), Vice-President of the British Medical Association, in the course of an interesting address on the subject of convalescent homes, urged the importance of providing more such homes for young children as a means of preventing and of curing tuberculosis. He pointed out that sanatoriums for adults were numerous, but in view of the large number of children who suffered from tuberculosis in its various forms—a fact becoming more evident with the systematic examination of children in the elementary schools—further provision of homes in the country for such children was urgently needed.

Special Correspondence.

PARIS.

The Suppression of Unqualified Practice.—The Medical Education of the Public.—Meeting of the International Dental Federation.—Memorial Statue to Horace Wells.—The Third International Congress of Physiotherapy.—Inaugural Lecture of Professor Achard.

A FRENCH court has just condemned, not however to a very severe penalty, an unqualified practitioner, a cosmopolitan person whose electric belts sparkled on the back page of the newspapers, and who, having been driven from America, England, Russia, and Germany in turn, thought he had finally found in France a safe asylum where a fortune might easily be made. The form which the judgement took was a piquant example of the spirit in which we in this country regard this sort of thing, a spirit which seems to distinguish us from the rest of the world. Even in an atmosphere so enlightened as that of the law courts the hereditary scepticism of the French with regard to official dogmatic medicine, and that love of the mysterious which, owing to their distaste for explanations which are incomplete, renders them secretly full of indulgence for absurdity, found expression. Thus it came about that the person to whom I have alluded, though he was driven out of his earlier countries as an impostor, in France has been found guilty only of practising an art he had not learnt, and has been acquitted by his judges of the charge of swindling. This is really a gross piece of *malice*—a big stone thrown into our therapeutic garden, if I may adapt a proverbial saying. What the judges really wished to convey was that they found it impossible to determine precisely what in medicine is a swindle; that, having regard to the immense part which suggestion plays in our prescriptions, and the intrinsic insignificance of some of our therapeutic measures, any sort of thing may, when helped by the unconscious cooperation of the patient himself, be the means through which an effective curative influence is exerted, and that in any case it is better to recognize the reality of this mysterious action, even when it is used by quacks, than to be induced to deprive the regularly qualified doctors of the possibility of assistance from this source.

This solicitude for our welfare is a little ironical, and I cannot help thinking that we would do well to reduce to its true proportions the legend of the influence of moral causes in the cure of disease. It would be to our advantage to determine precisely in what neuroses it is efficacious, and to state roundly that it is of no effect in the immense majority of cases. The education of the public will not be an easy task, but when it shall have been accomplished medicine will be relieved of a number of illusory formalities designed to encourage the sick in the virtue of patience, but which during the course of a long illness grow to be as absurd to him as is to a drowning man the excitement of a spectator on the bank who does not know how to swim. When that time comes we shall have the absolute and incontestable right to demand that unqualified practitioners shall be found guilty of swindling, and courts of justice even in their most humorous moods will not refuse.

That the medical education of the public ought to be undertaken in a proper way is evident, if we consider the extraordinary extent of the movement for the vulgarization of medical knowledge during the last twenty years. In France, literature is being invaded by medicine from every side. For two centuries after Molière our literature ignored doctors, but now in the works of modern writers they are given a preponderant place. Innumerable are the novels of which a doctor is hero, or at the least the *deus ex machina*. In not a few plays the doctor's part, scientific and social, is one of the chief; I need mention only *La Nouvelle Idole* of Curel, *Instinct* by Kystemackers, *Le Duel* by Lavedan, and nearly all the plays of Brieux. It is, moreover, to be observed that, far from following the old tradition of ridicule and sarcasm, these writers show our art in its most beneficent and serious aspects. While this has been going on in the world of books and of the theatre the press has opened its columns to the discussion of medical science until there is hardly a single great political newspaper which does not publish a medical *chronique* several times a week; moreover, when a sensational crime is committed it is the doctors who play the part of Sherlock Holmes, and it is their reports that the public awaits with the greatest avidity.

However flattering may be the attentions with which we are nowadays surrounded, there are some among us who are a little disturbed by all this fuss, and would prefer to be left to work in peace. There are two points with regard to the vulgarization of medical science which call for consideration. The more useful and legitimate it may be when it is designed to inculcate ideas of elementary hygiene and prophylaxis, the more dangerous and embarrassing does it become when it pretends to teach doctrines which the public's elementary education does not enable it to understand, or to submit to its judgement theories the value of which it is incapable of estimating. When we think we are giving the public exact ideas, we very often succeed only in creating fresh prejudices. The scientific truth is refracted and decomposed by the prism of their ignorance; it is misled by the few rays it maintains. We are seriously inconvenienced by this sort of thing in practice, for all these who after some superficial reading genuinely believe that they know something about our *métier*, pester us with objections and consider themselves capable of controlling, judging and even suspecting our methods of treatment. When in addition to all this we remember the way in which the drug vendors' advertisements worry the public by their pretensions and how the authors of these advertisments almost always assume, in order to pass off their contraband goods, the style of the vulgarizers the delicate nature of our task will be understood. The patient, possessed by his desire for a cure, knowing that modern medicine has made considerable progress, is ready to believe that nothing is impossible. He knows all about causes, symptoms, and remedies; he will not believe that our art is still imperfect, he grows angry with his doctor for his want of success, disbelieves in the sincerity of his modest protestations, and ends by giving himself up to the quacks.

The result thus brought about is the exact opposite of that which we set out to achieve, and it is clear that the method of education is wrong. We are forced, then, to the conclusion that the medical education of the public can only be achieved through the general education of the reasoning powers, and not through vulgarization. At first sight vulgarization may seem the logical way, but in the last analysis it is seen to be a most dangerous and inefficient method. From this point of view there are a great many things in France which are not only still to be done but to be re-done.

The annual meeting of the International Dental Federation was held at the Sorbonne on March 25th. Professor Dastre of the University of Paris, representing the Minister of Public Instruction, welcomed the members. The President, Mr. W. B. Paterson, F.R.C.S., L.D.S., of London, delivered an address, in which the Federation's work as the permanent bureau of International Dental Congresses was outlined for the ensuing year. Among the subjects set down for consideration were public dental hygiene in connexion with Poor Law schools and the naval and military services, and pedagogics in the medical and dental schools from an international point of view. At the conclusion of the President's address speeches were made by the following representatives of National Dental Societies and Associations constituting the Federation: M. Francis Jean and Dr. Gordon, of Paris; Professor Jessen, Strasburg; Mr. Mummery, London; Dr. Williams, Adelaide, Australia; M. Rosenthal, Brussels; Professor Kirk, Pennsylvania University; Dr. Florestan Aguilar, Madrid; Chev. Vincenzo Guerini, Naples; M. Van der Hoeven, The Hague; Dr. Christensen, Copenhagen; Dr. Lenhardtson, Stockholm. The appointment of Committees on Dental Education, Public Dental Hygiene, and other questions was then proceeded with. During the meeting, which occupied two days, the award of the Miller International Memorial Prize was made to Dr. G. V. Black, of Chicago, U.S.A., for "eminent services to dentistry." In the absence of Dr. Schaeffer-Stuckert, of Frankfort, the report of the Secretary-General was made by Dr. William Guy, Dean of the Edinburgh Dental School. The report, amongst other matters, referred to the question of the

admission of dentists to International Medical Congresses, on which an official communication had been addressed to the Permanent Committee of the International Medical Congress, now in session at The Hague, as follows:

The Executive Council of the International Dental Federation has the honour to ask the Permanent Committee of the International Medical Congress to take into serious consideration its opinion on the question of the admittance of dentists to, or their exclusion from, future International Medical Congresses.

If there is to be a Section of Stomatology or Dentistry, then, as the work of such a section will be to invite, to collate, and to discuss every advance in dental science and art, and, as the great proportion of such advance is made by dentists, it appears obvious that its work will necessarily be incomplete, and its survey greatly limited, if it does not include dentists in its membership. The Council of the International Dental Federation would therefore urge upon the Bureau of the International Medical Congress the wisdom and propriety of admitting dentists to a Dental Stomatological Section, if it is desired that the work of such a Section be authoritative and complete.

The Council of the International Dental Federation further submits the opinion that if the work of a so-called Stomatological Section is to be limited to the discussion of such matters only as are of medical and surgical interest and importance, as distinguished from dental, then it appears to it that a Stomatological Section is hardly necessary, as these matters can be better and more fully discussed in the Sections of Medicine and Surgery.

In short, it considers that scientifically there is no justification for the existence of a Stomatological Section which excludes dentists, and hopes, therefore, that your Committee will decide to strengthen and complete the Stomatological Section by admitting dentists.

On March 27th a memorial statue to Horace Wells, dentist, of Hartford, Connecticut, discoverer of surgical anaesthesia by nitrous oxide gas in 1846, was unveiled in the Place Etats Unis. The Minister of Public Works presided, and was supported by several chiefs of departments of the municipality of Paris, Professor Dastre, and other representatives of the Medical Faculty, and the members of the International Dental Federation, the American Dental Society of Europe, and the President of the British Dental Association. Eulogistic speeches were delivered, and in brilliant sunshine, and before a great crowd of spectators, the unveiling took place to the accompaniment of the strains of the Marseillaise, played by the band of the Republican Guard. The statue, which is the work of M. Boutée, was generally considered an artistic success. Wreaths and emblems were deposited at the foot of the memorial by representatives of the dental societies present.

The third International Congress of Physiotherapy was officially opened on March 29th at 10 a.m. in the large amphitheatre of the Sorbonne, which was well filled. M. Fallières, the President of the French Republic, occupied the chair, and was supported by Professor Landouzy, the President of the Congress, M. Doumergues, Minister of Public Instruction, Sir Francis Bertie, the British Ambassador, the American Ambassador, representatives of the Ministry of the Interior, the Prefect of Police, the Prefect of the Seine, and Professor Vaquez, the General Secretary of the Congress. President Fallières opened the proceedings with a speech of welcome to the visitors, and was followed by Professor Landouzy, who briefly summarized the scope and work of the Congress, which is divided into eight sections. Professor Vaquez followed, and then introduced the foreign delegates, who each spoke in turn, Great Britain being represented by Dr. Lewis Jones, medical officer in charge of the electrical department of St. Bartholomew's Hospital, and the United States of America by Dr. A. J. Magnin. The President of the Republic afterwards visited the large exhibition arranged in the courtyard of the medical school and in the rue de l'Ecole de Médecine, which is covered in by a large canvas covered structure for the purpose.

Professor Charles Achard, who has recently been appointed to the Chair of General Pathology and Therapeutics on the retirement of Professor Bouchard, recently gave his inaugural lecture in the Faculty of Medicine. This chair was created in 1831, and was first occupied by Broussais. Professor Achard traced the history of the chair and the work of his predecessors, who were Broussais (1831–1839), Audrel (1839–1866), Lasègue (1867–1869), Chauffard (1870–1879), and Bouchard (1879–1910). Professor Achard concluded by explaining his conception of the place of general pathology in medical teaching and its utility, laying stress on the necessity of the laboratory attached to the chair, as it was in the laboratory that new facts arose and experimental methods elaborated which allowed the application to man, without danger or suffering, of the investigations which are of use in recognizing his diseases; in the laboratory also methods of relief and cure were tested.

BERLIN.

Retirement of Professors Olshausen and Senator.—Annual Report on Berlin Hospitals.—A Country Hospital for Tuberculosis.

Two shining lights of the Berlin University, Professors Olshausen and Senator, both close on 75 years of age, have decided to retire from the offices they have held so long and so illustriously. Olshausen, a native of Kiel, came to Berlin as Schroeder's successor in 1887; since then he has been chief of the university hospital for women (Artillerie Strasse), and generations of students—many thousands in all—have sat at his feet. He is the editor of the *Zeitschrift für Gynaekologie und Geburtshülfe*, is honorary president of the Berlin Obstetric and Gynaecological Society, professor in the Kaiser-Wilhelm-Akademie (Pepinière), and member of the Prussian State scientific committee for medical affairs. Senator was born at Guessen in Polish Prussia. His whole life's work has been done in Berlin and its university, where he is the last remaining great pupil of such men as Johannes Müller, Virchow in his youth, Traube, and Schönlein. Since 1881 Senator has been chief of the University Medical Policlinic. When v. Bergmann died Senator was elected President of the Berlin Medical Society, the highest mark of respect and confidence that the Berlin profession can bestow on one of its members. Goldscheider is to succeed Senator in his university offices. Olshausen's successor has not yet been decided on.

The Berlin municipal committee for hospitals and matters relating to public hygiene has published the report on hospital management for 1908. Among the new arrangements a decision that henceforth no married assistants are to be appointed is recorded. The magistrates ratify the appointment of a lady doctor as assistant in the Gitschiner Strasse Hospital, but for the future demand to be consulted beforehand when the intention of appointing a female assistant exists. In pursuance of a decision on the subject, persons not domiciled in Berlin are no longer admitted to the municipal hospitals except in cases in which refusal might endanger the patient's life, or do him certain harm. Consequently, in 1908, the number of patients from beyond the boundaries of Berlin fell to 2,569 as against 4,318 in 1907. The total number of patients who occupied beds in the six municipal hospitals was 54,212, as against 51,840 in 1907, 43,390 in 1906, and 38,429 in 1905. The greatest rise coincided with the period following the opening of the Rudolf Virchow Hospital in October, 1906. The average cost of patients in the municipal hospitals works out at 5 marks, 41 pfennig (5s. 5d.) per day and head, and of this 1.52 (1s. 2¼d.) is covered by payments, the rest being at the charge of the municipality.

Near the little town of Beetz, half an hour by rail from Berlin, the township of Charlottenburg has acquired a forest site of 360 acres on which to erect an establishment for tuberculous patients. Grave cases from the West End Hospital, and bad private cases whose removal from home is desirable in the interests of the public health, are to be received there for permanent treatment. A sanatorium for convalescents, and for the temporary reception of light cases who may be waiting to get in to sanatoriums, will also be erected. The plans make provision for 200 beds, with the possibility of extension to 300 beds.

WE are informed that the issue of army horses to landowners, farmers, and others, in accordance with the scheme noticed in the JOURNAL of last week, p. 772, is at present restricted to cavalry regiments stationed in certain districts.

THE Royal Mail Steam Packet Company announces that it has decided to use the Azores as a port of call for the fortnightly mail steamers on both the outward and homeward journeys. The islands form a natural halfway house between Europe and the West Indies, and offer many attractions to tourists; the climate is equable; the fishing, it is said, good, and the roads excellent for riding and driving. Tickets for nineteen days, including ten days' accommodation in hotels, are issued at £15.

Correspondence.

DYSMENORRHOEA.

SIR,—In an able and suggestive lecture reported in the JOURNAL of March 19th Dr. Gibbons refers to a theory of causation of this disease which has been advanced by Dr. Herman,[1] and which I ventured to criticize in a letter to the JOURNAL of May 15th.

Briefly to recall this theory, its author ascribes the characteristic spasmodic pain to the faulty development of a centre controlling the movements of the genital canal, which centre is assumed by him to exist in the spinal cord or sympathetic system. In my former letter, after calling attention to the cases which developed dysmenorrhoea after years of painless menstruation, I asked for information—and in vain—as to the degree of development of this hypothetical "sexual" centre in such cases. "Their painless history of years' duration effectively debars any association with such a maldeveloped sexual centre."

I was gratified to read of the employment of this argument by Dr. Gibbons, in stating a case against the complete acceptance of Dr. Herman's theory. In like manner, Theilhaber's well-known view of the etiological factor in this condition receives criticism at his hands, but not on the same grounds, which is rather surprising. Instead, Dr. Gibbons emphasizes the occurrence of hypertrophy of the uterine musculature, which he believes to exist, because "in nearly all cases of well-marked dysmenorrhoea in which I have operated the sound measured an increase of $\frac{1}{4}$ in. to $\frac{1}{2}$ in. For this reason, he rejects Theilhaber's theory that a badly-developed uterine muscle is the *fons et origo* of the disease. But surely an increase of a fractional part of an inch in the length of the uterine cavity, as measured by a graduated sound, is not seriously offered as evidence of an existing hypertrophy of its walls. On the contrary, hypertrophy of the musculature of such a hollow spheroidal viscus as the uterus, must be concentric in disposition, and of necessity encroach upon the actual capacity of the contained cavity.

Moreover, within certain limits—depending upon the inherent elasticity of the tissues—the reading obtained from the sound will depend upon the drag exerted on the cervix while the length of the cavity is being determined; pull hard enough upon the vulsellum, and a reading which will repose comfortably in any tables of statistics in course of preparation will be secured. I trust these comments of mine upon an admirable lecture savour not of a piece of destructive criticism. Such, at any rate, was not the vein in which they were penned.—I am, etc.,

Dukinfield, March 22nd. GERALD RALPHS, M.B.Vict.

SIR,—It was with great interest that I read Dr. R. A. Gibbons's lecture on dysmenorrhoea in the JOURNAL of March 19th, and noted carefully his own theory as well as that of others quoted by him regarding the etiology of dysmenorrhoea. Having attended and cured hundreds of these cases of simple dysmenorrhoea, I must say I cannot see why we cannot accept, without looking any deeper, the simple theory that the cause of these spasmodic painful contractions of the uterus at the menstrual period is due to a cervix of small lumen. In such a case, pure and simple, menstruation will take place without any pain if the nervous system is in a normal condition; such a person may have no dysmenorrhoea for some time after that physiological act has become established, but if for various reasons vasomotor nervous disturbances take place, whether from the effects of a chill the result of a severe wetting, illness, fright, grief, shock, or other such causes, this upset to the nervous system interferes with the regulation and control of blood supply to the part, and as a result an *over*-supply at each menstruation, which in cervical canal of normal lumen would have no obstructive effect, in an abnormally small lumen will cause a sufficient obstruction to bring about dysmenorrhoea, the pain of which is not relieved until the flow is fully established, the latter being only brought about by dilatation of the cervix. There is likely to be, of course, in these cases, the highly sensitive mucous membrane of the uterus, which Dr. Gibbons has noticed, and one which becomes turgid on irritation by a foreign body—such as a probe—and producing painful uterine contractions. A single artificial dilatation of such a cervical canal is in some cases sufficient to bring about a cure even if it only causes the minutest increase in the permanent enlargement of its lumen, though I have seldom found such cases to require this latter procedure, provided the nervous system of these patients is properly attended to and for a sufficient length of time, the excessive menstrual turgescence of the uterus being in the meantime kept under control with such drugs as cannabine tannate, ergotin, and cotarnin hydrochlor., etc.—I am, etc.,

Manchester, March 28th. MARTIN J. CHEVERS.

[1] BRITISH MEDICAL JOURNAL, April 17th, 1909.

SIR,—I desire to protest most earnestly against the recommendation, contained in the address on dysmenorrhoea by Dr. Gibbons, to treat dysmenorrhoea by repeated doses of brandy. There is no man of experience in general practice who does not, again and again, see cases where homes are wrecked and families ruined by this treatment.

Then, again, what is the use or meaning of the recommendation to apply a thick layer of wool "*sometimes sprinkled with laudanum?*" I had thought that it was now generally known that opium acts as an analgesic only when it comes into contact with the brain cells. If this is so, to apply it to the abdomen sprinkled on wool is about as reasonable as the Chinese method of treating prolapsus uteri by a blister on the scalp.—I am, etc.,

London, W., March 24th. J. MCNAMARA, M.D.

SIR,—One reader of Dr. Gibbons's lecture on dysmenorrhoea (BRITISH MEDICAL JOURNAL, March 19th) has demurred to his recommendations of brandy in the treatment of this affection. May I be allowed to call attention to another minor point in the treatment of dysmenorrhoea advocated by Dr. Gibbons, namely, the application of laudanum or equal parts of liniment of aconite and liniment of belladonna to the abdomen? These applications, he says, are "particularly soothing, combined with the heat."

This statement is directly at variance with the results of a series of experiments to determine the action of various reputed anodynes on the unbroken skin described in the BRITISH MEDICAL JOURNAL two weeks previously (by A. R. Short, M.D., and W. Salisbury).

As Dr. Hale White says in his well-known *Materia Medica*, "probably it is the heat and not the opium which relieves the pain," and the same presumably may be said of the application of liniment of aconite and liniment of belladonna "combined with heat."

Is it not time that the question of local analgesia should be settled authoritatively, and on a scientific basis? At present the teaching seems to be based mainly on tradition, which—if any value is to be attached to the experiments to which allusion has been made—is for the most part misleading.—I am, etc.,

Brighton, March 26th. E. WEATHERHEAD.

THE DANGERS OF THE ARYLARSONATES.

SIR,—I endorse Mr. J. Ernest Lane's statement, "that there was, therefore, in the medical journals some indication that these drugs were not quite so innocent as they had been depicted." In September, 1908, I wrote[1] that atoxyl has given rise to many cases of toxic poisoning, as well as to many cases of *total blindness* in treating sleeping sickness. This is attributed to *adulteration* of the drug, but the symptoms appear to be those of ordinary arsenical poisoning, namely, "gastro-intestinal pains, nausea, vomiting, painful micturition, and painful sensations in the limbs"—that is, arsenical neuritis, these symptoms possibly being due to intramuscular injections, as can occur with insoluble injections of mercury.

I do not, on the evidence presented, concur in Colonel Lambkin's view:

> That one important fact has been established—that is, that in these salts (arylarsonates) we are now in possession of a *specific* for syphilis, and the importance of this cannot well be exaggerated. . . . Injections of soamin can be looked on as prophylactic in the majority of cases against any further development of the disease, if given early and in sufficient quantities.[2]

[1] *British Journal of Dermatology*, November and December, 1908.
[2] Colonel Lambkin, R.A.M.C., BRITISH MEDICAL JOURNAL, August 15th, 1908, pp. 391-394.

I also questioned, as did others, the value of arylarsonates as opposed to mercury in treating early syphilis in the *Proceedings* of the Royal Society of Medicine in April, 1909.[3]

And again at the meeting of the British Medical Association, in 1909, at Belfast.[4]

The possibility of arsenical *stasis* occurring is, to my mind, undoubted, as atoxyl and soamin (which is purified atoxyl) are both very *insoluble*. We have an analogous condition in the case of mercury:

> The condition known as mercurial stasis involves great risk to the patient. This is especially the case when injections of insoluble preparations are being made use of, as a large quantity may be introduced into the tissues with serious or fatal consequences, when absorption again commences.[5]

In some 20 to 25 deaths on record under injections of the insoluble preparation (grey oil) mercurial stasis commonly occurred before death, and could occur as long as two months after the last injection (vide *Lancet*, July 24th, 1909; September 25th, 1909; January 8th, 1910). A recent expert Committee on Venereal Diseases in the Army, sitting at the War Office, issued a memorandum in January, 1910, to all medical officers in the army, after a prolonged independent trial had been previously given to the arylarsonates (soamin and arsacetin) at certain large military stations. They stated as a result of this evidence:

> That the utility of these preparations (arylarsonates) as a prophylactic against syphilis has not been proved, and does not recommend their administration for that purpose.

For fifty years past Donovan's solution (liquor arsenii et hydrargyri iodidi), a *British Pharmacopoeia* preparation, has been prescribed in England in treating syphilis. I have used it extensively with advantage for seventeen years in treating the late secondary and early tertiary phases of syphilis, and more especially those anaemic cases complicated with malaria in which mercury is often badly borne and which may be so difficult to treat. Marked benefit, together with a gain in weight and lessened anaemia, commonly ensues.

Major Pollock, R.A.M.C., who in 1905–6 wrote the valuable Advisory Board reports on venereal diseases in the army, recently stated:

> That the value of arylarsonates as opposed to mercury in early cases had not been established.[6]

I have used both soamin and arsacetin in treating early syphilis at Woolwich on the plan recommended by Heyman and used also by Colonel Lambkin, and, although there was in some cases, and as a result of its tonic action, a gain of 5 to 7 lb. or more whilst the patient was well dieted in hospital, yet severe relapses with marked loss of weight later occurred in many instances, and the induration of the chancre and lymphatic glands was not nearly so beneficially influenced as is the case with the judicious use of mercurial inunctions, hydrarg. cum creta with opium, by the mouth or with other methods. I endorse Heyman's view that the action of arsacetin (orsudan) is purely temporary.[7]

Whilst injecting the arylarsonates I fortunately did not meet with worse results than albuminuria and slight toxic symptoms. In one case the man had epileptiform seizures and his hair turned from black to auburn, but subsequently regained its normal colour. Such fits, I believe, have been recorded by other observers also.

I think Mr. Lane's letter citing four recent cases of total blindness due to arylarsonates in treating syphilis is most important; the point should not be overlooked. Syphilis is a serious disease, but surely nothing could compensate for blindness. Mr. Lane's evidence is also indirectly endorsed by Colonel Lambkin, who, in drawing attention to the necessity of solutions of atoxyl, soamin, and orsudan being freshly prepared in order to guard against grave toxic signs, states:

> Neglect of this precaution has to my knowledge led to unfortunate results, such as described by Mr. Lane.

I am informed that Professor Neisser has discontinued the use of arylarsonates owing to the occurrence of blindness.

In face of the foregoing evidence, I have no intention of again using these preparations, as we have others better, older, and much safer in the treatment of syphilis. The fact that in the army we ordinarily deal, as pointed out by Mr. Charles Wray, with picked, healthy young men, who are well housed, clothed, and fed in hospital, may explain why we have been more fortunate in escaping accidents, but it may not always be so.

I also think that, in dealing with this question of the arylarsonates, it is important to avoid, if possible, any recurrence of the grave scandals that attended the abuse of mercury a hundred years ago, which for many years led to the disuse of our most valuable remedy in treating early syphilis.—I am, etc.,

H. C. FRENCH,
Major, R.A.M.C.

Malta, March 24th.

SIR,—I have read the correspondence on the above subject with pleasure and profit, and, whilst I think thanks are due to Mr. Lane for drawing direct attention to the already known, but perhaps not fully appreciated, dangers attending the use of arylarsonates, I cannot but think that it is a matter for regret that he has given the weight of his authority in condemning absolutely their further use after a single unfortunate experience about which he gives us no details. To demand an unblemished record, free from untoward results, during the experimental stages in the use of any drug is an attitude incompatible with therapeutic progress, and one which would in the past surely have robbed us of most of our present potent drugs, including mercury.

An unsuitable dose of soamin or arsacetin given to an unsuitable patient may produce optic atrophy, and in the same way chloroform may cause death; and I take it that this is really the stumbling-block in the matter.

The majority of the recorded arylarsonate mishaps have occurred in patients well beyond the prime of life, where perhaps one or more of the many points to be observed in the early use of a new drug have escaped full recognition. If due consideration is given to the age, body weight, state of the urine, and visual fields of the patient and the dose of the drug regulated accordingly, I think in the future we can still hope to derive the good and often wonderful effects of these organic preparations of arsenic.

That there is a place for them in therapeutics, and especially in the treatment of syphilis, I have no doubt, and extending experience confirms this opinion. I have had two cases of intolerance with soamin causing acute abdominal pain, vomiting, and diarrhoea; in both I obtained pleasing results by reducing the dose and more carefully watching the varying states of both soil and seed.

In conclusion, I think the profession and their patients owe a large and deep debt of gratitude to Colonel Lambkin for his work in bringing the arylarsonate, and more recently the combined atoxyl and mercury treatment of syphilis before us, the ultimate results of which it is at present impossible to estimate, and I greatly deplore any attempt to abandon, without full trial, on strictly scientific grounds, a measure which may be, and I believe is, destined to prove eventually of great and far-reaching utility.—I am, etc.,

GEORGE A. CARTER.

Tunstall, Staffs, March 22nd.

*** Messrs. Meister, Lucius, and Brüning write to point out that orsudan and arsacetin are not identical:

Orsudan = 3 methyl, 4 acetylaminophenylarsinic sodium.
Arsacetin = acetylaminophenylarsinic sodium.
The difference may also be expressed by the following data:
Orsudan contains 25.4 per cent. arsenic, and is soluble in water in relation of 1 to 3.
Arsacetin contains 21.25 per cent. arsenic, and is soluble in water in relation of 1 to 10 parts.

THE DANGERS OF SPINAL ANAESTHESIA.

SIR,—"Voyez comme il sourit en regardant ses intestins." This was the burden of Professor Jonnesco's song at the Royal Society of Medicine, and, beyond photographs depicting this happy state of affairs and his own assurance that his method was perfectly safe, he produced no convincing evidence that it was in any way superior either to general anaesthesia or to the method evolved in this country by Mr. Barker. However, in spite of this,

[3] *Proceedings of the Royal Society of Medicine*, Dermatological Section, April, 1909, p. 102.
[4] BRITISH MEDICAL JOURNAL, August 14th, 1909, p. 382.
[5] Major C. E. Pollock, R.A.M.C., First Report of the Advisory Board on Venereal Diseases in the Army, p. 12.
[6] Lieutenant-Colonel J. B. Wilson, R.A.M.C., The Management of Venereal Diseases at Woolwich, *Journal Royal Army Medical Corps*, March, 1910, pp. 295–307.
[7] BRITISH MEDICAL JOURNAL, August 14th, 1909, p. 382, and EPITOME, May 15th, 1909, p. 80.

and in spite of the indifferent results he obtained at the Seamen's Hospital (only one completely satisfactory anaesthesia in three cases), the method was acclaimed by a section of the profession and eulogized by the lay press, the public being beguiled into a belief in its absolute safety. The amount of harm done by this premature endorsement of spinal anaesthesia may be guessed when I mention that a surgeon told me the other day that it was only by firmly refusing to operate under it that he persuaded a patient to have the safer general anaesthetic.

And now we find the patient does not always regard his intestines with a smile. All honour to Messrs. Milward and Gabbett for publishing their fatalities. It is not given to all of us to find time for the perusal of the Continental literature on the subject. As one who has endeavoured to do so I have been impressed by the number of unfortunate accidents attending spinal anaesthesia abroad. British surgeons appear to have been more successful, but fatalities have occurred of which reports in the medical press have been either meagre or absent.

Mr. Milward's case appears to have been one of those particularly calling for spinal anaesthesia. The immediate danger of asphyxia during operations for acute intestinal obstruction under general anaesthesia is too well known, and, although he escape this, the patient may die later of pneumonia set up by the inhalation of small quantities of faeculent vomit.

In conclusion, I venture to think that spinal anaesthesia should be confined to these cases, to emergency operations where proper preparation is impossible, and to cases complicated by serious lung trouble.—I am, etc.,

London, W., March 26th. G. A. H. Barton.

THE TREATMENT OF GASTRIC AND DUODENAL ULCER.

Sir,—The lecture on gastric and duodenal ulcer by Dr. F. J. Smith (March 19th) raises some points of great interest. He stands out frankly as an opponent of operative treatment.

I am bound to confess that if he bases his opinion on the figures which he has put forward he is entirely justified. He shows clearly that the mortality following operation on simple ulcer or its sequelae (excluding perforation) in the London Hospital is no less than 17 per cent. This mortality is absolutely appalling. If operation involves this risk, then, in my opinion, no physician is justified in seriously considering surgical treatment.

The opinion of every modern surgeon will, I am sure, be that the extreme operative risk should not exceed 3 per cent. In the hands of many operators it does not exceed 1 per cent. If, therefore, 17 per cent. represent the actual operative mortality in the great London Hospital, there must be something radically wrong somewhere. So much for the operative mortality on which Dr. Smith bases his opposition to surgical treatment.

Dr. Smith estimates the prospect of relapse after medical treatment to be 12.3 per cent., whilst after surgical treatment the percentage was 8.9. Assuming these figures to be even approximately accurate for the purposes of this discussion, we must not overlook the fact that the 321 cases on which operation was performed were probably every one of them recognized by the physicians as incurable. If, therefore, the surgeon has succeeded in curing 90 per cent. of cases otherwise doomed to a life of chronic invalidism or even early death, surely the record is highly satisfactory.

This brings me to the point that general surgical opinion is in favour of operation only when a thoroughly efficient course of medical treatment has proved unavailing. I have read all Mr. Moynihan's articles with the greatest care, and I certainly never understood him to convey that "any one who suffers from the symptoms of *painful* indigestion should have the abdomen opened." I have invariably understood him to emphasize the point that he recommended operation when the attacks were recurrent or the disease chronic. The paragraph dealing with haemorrhagic cases is exceedingly interesting; the closing sentence, "You will keep on oscillating in your opinion," seems to sum up Dr. Smith's views fairly accurately.

Finally, this article scarcely appears to me to deal fairly with the relation of physician and surgeon. It is not the function of the physician to decide when an operation is necessary or desirable, and then call in a machine to do the work. The interests of the patient would appear to be best considered by asking a surgeon to talk the matter over and give an opinion based on his own actual experience as to whether the case is one likely to be benefited by an operation, the entire responsibility for which will be thrown on him.—I am, etc.,

Belfast, March 28th. A. B. Mitchell, M.B., F.R.C.S.I.

WHITEHEAD'S OPERATION FOR PILES.

Sir,—I much regret to have to question the opinions of Messrs. Mummery and Harrison Cripps, particularly in such a presumably simple matter as the removal of piles, but when I read the astounding dogmatic assertion that Mr. Whitehead's method "is the worst operation that has ever been introduced for the cure of this common malady," I cannot help remarking that I attribute such a travesty of fact to the ignorance of the rudiments of the operation. During the past nineteen years I have had an experience of 500 cases without a single death; only 2 developed permanent fibrous stricture, and there was only 1 partial recurrence.

I feel confident that the famous Manchester surgeon will not consider it presumptuous on my part if I take the liberty of referring anyone who wishes to learn a simple method of doing his operation to my paper published in the *Boston Medical and Surgical Journal*, February 26th, 1903.—I am, etc.,

J. O'Conor, M.A., M.D.Univ.Dubl.,
Senior Medical Officer, British Hospital,
March 29th. Buenos Aires.

HUMAN SERO-THERAPY.

Sir,—In the British Medical Journal of February 12th (p. 410) your Paris correspondent, in writing of human sero-therapy, asks, "Why has this simple way of preserving mankind not been thought of before?" Kindly allow me to say that the idea of blood-therapy occurred to me more than twenty-five years ago (1884); and in that year I asked the then editor of the *Lancet* whether it would be justifiable for me to inject the blood, or any constituent of the blood, taken from a patient recovered from an infectious disease (for example, scarlet fever) into another patient suffering from the same disease. I purposed to restrict my experiments to the members of the same family, in order to obviate any risk of specific disease; and the reply of the editor to my query was that it would not be justifiable to do so in the present state of our knowledge.

Curiously enough, the same principle of treatment occurred to me in connexion with snake poison, and I contributed two short letters to the *Lancet*, under the *nom de plume* of "Incognito," on February 23rd and March 8th, 1884, which attracted the notice of Mr. C. H. Piesse, F.I.C., who in a letter to the *Lancet* on March 22nd of the same year remarked that "the line of research advocated would be one well worth investigation." In these times there was no such thing as serum-therapy in existence, and I wrote to the *Lancet* with some amount of diffidence.

Defibrinated blood is almost as efficacious as serum; it is easier to prepare but more difficult to preserve than serum. Further, serum is a much cleaner and nicer material to work with, and can be freed from all extraneous germs and particles by filtration through a suitable filter; hence the almost universal use of serum for therapeutic purposes. On the other hand, defibrinated blood is far superior to serum as a *protective* agent in certain protozoal diseases—for example, Texas fever (piroplasma disease) in cattle.—I am, etc.,

Geo. Carrington Purvis, M.D., B.Sc.Edin.

Grahamstown, Cape Colony, March 7th.

GENERAL PRACTITIONERS AND POOR LAW REFORM.

Sir,—Dr. Pearse, in his paper in the British Medical Journal of March 19th, says:

Can we do nothing to avert a condition of affairs that cannot but fail to affect adversely a large majority of us general practitioners, and to make the prospect of providing for our old age more and more visionary?

In the same number Dr. Cooper writes:

(b) Indigents; that is, those who have ordinarily not enough to live on . . . I would fix the wage limit of this class at £1 a week. Any one earning on an average less than this . . . is, in my opinion, quite unable to pay anything towards the cost of medical attendance. . . .

Nine-tenths of my patients earn from 15s. to 18s. a week, making a little more in harvest, but losing time whenever the weather is unfavourable. Yet they pay me, and pay well, and readily. And Dr. Cooper would sweep them all, and with them all the agricultural workmen, in to the arms of the Poor Law.

Is the publication of such opinions as these going to help the general practitioner? I doubt it.

Surely it is not too much to ask that when a man is about to put out such ideas in the organ of the profession he should take the trouble to inquire what the effect may be on his poorer colleagues.—I am, etc.,

New Romney, March 22nd. HENRY HICK.

CONSULTANT, GENERAL PRACTITIONER, OR HALF-AND-HALF?

SIR,—"Est Modus in Rebus" (March 26th, p. 785) has dealt with the above subject in a personal manner. I have no intention to continue the discussion on those lines. My object was to offer a suggestion which I thought, if adopted, would benefit the public as well as our profession. —I am, etc.,

March 28th. ENQUIRER.

"ON SALE OR RETURN."

SIR,—In reference to Dr. Robert Saundby's protest, anent the copy of the February number of *Rivista Italiana di Neuropatalogia*, etc., sent to him, and to which was gummed a slip, whereon was written, "Celui qui ne nous renvoie pas cette livraison restera abonné pour toute l'année 1910," my recollection is the Irish courts some years ago decided, in an action for the recovery of the subscription under similar circumstances, that if the recipient of the paper opened and read it he was liable for payment for it; otherwise the recipient could, if he chose, request the sender to have the periodical removed, and, on failure to do so, could sue for storage of it. By following these lines, I think Dr. Saundby will find that the receipt of Professor G. d'Abundo's publication would cease, and that he will be in no way responsible for its delivery to him or liable for its return.—I am, etc.,

Brighton, March 21st. R. HILL SHAW.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE Board of Faculty of Medicine has co-opted as one of its members Dr. John S. Fairbairn, of Magdalen College and St. Thomas's Hospital; he will hold office for two years from May 1st, 1910.

THE VICTORIA UNIVERSITY OF MANCHESTER.

Address by the Vice-Chancellor.

THE Vice-Chancellor of the Manchester University, Dr. Hopkinson, on March 23rd conferred a number of degrees in medicine in the council chamber of the university.

In the course of his address, he said he was sorry to say that Mr. F. A. Southam's term of office at the Royal Infirmary would soon terminate, and he was resigning his appointment as professor of clinical surgery in the university. He was sure Mr. Southam would continue to display that warm interest in the medical school that had so distinguished his career as professor. An announcement would soon be made as to the appointment of his successor.

The authorities of the university were remodelling the curriculum for medical degrees, and more opportunities for the working out of the practical side of the students' training were to be given. They were making the preliminary training point more directly to practical utility, and the special courses in chemistry would be found eminently suitable for those who would have to use chemistry in their future work.

In the course of further remarks he expressed great regret at the fact that for want of funds the splendid new building of the St. Mary's hospitals had to stand idle. It was to be deplored both in the interests of the sick and of medical education.

Referring to post-graduate work, he said there were three branches to which special attention might be directed. The first was what he might call psychological medicine, and proposals would be laid before the university for special diplomas in this subject. It was also most desirable to have one or two fellowships for special research in particular branches of medicine. Admirable work was already being done on the subject of cancer, and he would like to see research made possible in other branches of medicine. In a third branch, too, he hoped there would soon be further developments—namely, medicine as applied to certain industrial pursuits and trades. He thought much might be done to prevent the deterioration of the race in the great industrial centres. Just as Liverpool had taken a leading part in the subject of tropical medicine, so he hoped that Manchester University, in conjunction with the public health department, might do some useful work in the matter of industrial medicine, or medicine as applied to various trades and industries and to factory hygiene.

Examinations.

The following candidates have been approved at the examinations indicated:

SECOND M.B. AND CH.B. (*Anatomy and Physiology*).—W. Barnes, W. L. Cox, W. C. C. Easton, R. B. Gorst, G. B. Horrocks, A. H. Macklin, H. Sheldon.

THIRD M.B. AND CH.B. (*General Pathology and Morbid Anatomy*).—O. R. Allison, B. Herald, *A. H. Holmes, L. W. Howlett, W. H. Laslett, N. Matthews, F. Oppenheimer, S. Rawlinson, G. E. Sawdon, R. P. Stewart, G. Whitehead.

FINAL M.B. AND CH.B. (*Forensic Medicine and Toxicology*).—A. E. Ainscow, R. Brierciffe, C. Davies, H. A. Dunkerley, E. R. Eatock, Gertrude H. Geiler, P. S. Green, H. Heathcote, R. C. Hutchinson, W. Howarth Parkinson, W. Hoyle Parkinson, A. Reid, J. B. Scott, W. A. Sneath, J. P. Stallard, J. Walker, Charlotte E. Warner.

FINAL M.B. AND CH.B. (*Medicine, Surgery, and Obstetrics*).—G. M. Benton, C. G. Brentnall, R. A. Jackson, †N. T. K. Jordon, C. Pimblett, A. Porter, W. W. Stacey, A. C. Turner.

D.P.H.—J. Allen, W. Bradley, D. Fenton, W. J. Hoyten, R. A. Needham, Capt. I.M.S., R. T. Turner.

* With distinction. † Second class honours.

UNIVERSITY OF LEEDS.

Appointments.

THE following have been appointed External Examiners in the Faculty of Medicine:

In Anatomy.—Professor Fawcett of University of Bristol.

In Physiology.—Professor W. D. Halliburton of King's College, London.

In Materia Medica and Pharmacy, Pharmacology, and Therapeutics.—Professor A. R. Cushny, University College, London.

In Pathology and Bacteriology.—Professor G. Sims Woodhead of Cambridge.

In Forensic Medicine.—Dr. F. J. Smith of the London Hospital.

In Public Health.—Dr. H. T. Bulstrode, Medical Inspector of the Local Government Board.

In Medicine and Mental Diseases.—Dr. L. E. Shaw of Guy's Hospital.

In Surgery.—Mr. L. A. Dunn of Guy's Hospital.

In Obstetrics and Gynaecology.—Dr. J. S. Fairbairn of St. Thomas's Hospital.

Examinations.

The following candidates have been approved at the examination indicated:

SECOND M.B., Ch.B. (*Anatomy and Physiology*).—H. Angel, J. H. Blackburn, L. Ferguson, G. W. L. Kirk, F. H. Kitson, G. P. Mellis, J. C. Metcalfe, M. Peto, S. Samuel, H. W. Symons.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examination indicated:

SECOND M.B. (*Anatomy, Physiology, and Materia Medica*).—*J. S. Arkle, R. E. Bell, H. G. Dodd, W. A. Elliott, F. J. H. T. Frere, S. E. Murray, W. S. Murray, C. H. Robson, S. Scott, H. J. Shanley.

* Second-class honours.

UNIVERSITY OF DUBLIN.

Regulations for Degrees.

THE Board of Trinity College, Dublin, has adopted the following resolutions:

1. That no students or graduates of any other university (excluding Oxford and Cambridge) should be allowed to take the B.A., unless they have kept at least two academic years at Trinity College, Dublin.
2. That no student should be allowed to take any of the degrees in medicine, surgery, and midwifery, unless he has attended at least three years of the prescribed curriculum in the School of Physic, Trinity College.
3. That any student who is a Bachelor or Master of Arts of a university recognized by the Board and Council should be allowed credit for the two Freshmen years and the Final Freshman Examination; and that such student should be allowed to have his name placed on the college books as a rising Junior Sophister, upon payment of the final fee of the Senior Freshman year. If it should appear that any such student has not studied, as part of the approved courses in the university at which he has graduated, any of the compulsory subjects for the Final Freshman Examination, then the Senior Lecturer should have power to require such student to pass a qualifying examination in such subjects.
4. That the following universities should be recognized under the foregoing rule—namely, the Universities of Aberdeen, Birmingham, Edinburgh, Glasgow, Leeds, Liverpool, London, Manchester, St. Andrews, Sheffield, Wales.

UNIVERSITY OF ABERDEEN.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B.—W. H. Brodie, *F. F. Brown, T. G. Brown, J. T. Cameron, A. W. H. Cheyne, R. E. Dastur, W. J. Ewen, W. M. Fowler, A. R. Fraser, C. M. Geddie, G. A. C. Gordon, A. M. Gray, S. Henry, R. Munro, J. M. H. Reid, G. W. Riddel, F. Ritchie, J. F. W. Sandison, E. Tawse, J. Wood.

SECOND M.B., CH.B.—D. S. Badenoch, W. F. Beattie, H. G. Bruce, M. M. Cruikshank, Elizabeth M. Edwards, H. T. Finlayson, Margaret R. Forgan, A. P. Gray, F. Griffith, W. Henderson, W. P. Hogg, W. W. Ingram, *A. F. Legge, N. MacPhail, R. G. Martyn, ** R. R. M. Porter, J. Shaw, H. R. Souper, *C. M. Stephen, **G. Stuart.

THIRD M.B., CH.B.—J. B. Anderson, A. M. Brown, C. C. Chance, R. J. Creighton, *J. Davidson, *R. M. Easton, J. Fettes, C. S. Glass, W. E. Glover, G. Leggat, A. C. Macrae, J. M. Mitchell, J. R. Murray, **H. J. Rae, P. Reid, D. O. Riddel, A. Smith, W. G. Thomson.

FINAL M.B., CH.B.—H. Brayshaw, A. J. W. Calder, N. J. Calder, J. P. Cameron, R. M. Chance, C. Clyne, E. W. H. Cruikshank, C. E. Greeson, T. C. Halley, R. Kellas, C. M'Kerrow, A. Mitchell, A. D. Reid, W. J. Reid, **R. Richards, H. E. Shortt, C. F. Simpson, R. Sinclair, W. Smith, D. J. S. Stephen, A. W. Webster, S. G. Trail.

* With distinction. ** With much distinction.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*H. R. L. Allott, ‡S. Danziger, *J. A. Laughton, †C. P. A. de L. Pereira, *L. M. Potter, ‡C. Pyper, ‡E. Renouf, †R. Rowlands, †G. F. Wilson.

MEDICINE.—‡K. Baylis, *M. Graves, ‡A. W. Hansell, †A. Y. Massey, ‡C. P. A. de L. Pereira, †G. F. Wilson.

FORENSIC MEDICINE.—A. W. Hansell.

MIDWIFERY.—H. R. L. Allott, E. G. Brisco-Owen, L. M. Potter.

* Section I. † Section II. ‡ Section I and II.

The diploma of the society has been granted to Messrs. S. Danziger, A. W. Hansell, C. P. A. de L. Pereira, and G. F. Wilson.

The Services.

ROYAL ARMY MEDICAL CORPS (TERRITORIALS).

CONFERENCE OF MEDICAL OFFICERS OF THE WEST RIDING DIVISION.

A WELL-ATTENDED conference of the medical officers of the West Riding Divisional Area Territorial Force was held at Harewood Barracks, Leeds, on March 19th. The chair was taken by Major-General G. M. Bullock, C.B., commanding the West Riding Division, who, in opening the proceedings, dwelt upon the necessity for strict sanitary precautions in camp and the field. His experience had shown him that the maintenance of proper conditions saved life by reducing preventable disease. After Colonel de B. Birch, C.B., had briefly explained that the object of the conference was to introduce uniform methods of sanitation into the camps of the Division, Lieutenant-Colonel A. Wear made a statement of the work carried on by the R.A.M.C.T. School of Instruction in Leeds, of which he is the commandant.

Major W. H. S. Nickerson, V.C., R.A.M.C., Sanitary Specialist, Northern Command, sketched the need for the organization of a sanitary service. He pointed out that the general officer commanding the Division was responsible for sanitation in the Division as a whole, his advisers being the administrative medical officer and the sanitary officer of the Division. The duties of the medical officer attached to a regiment were partly executive, consisting of the care of the sick and taking command of the sanitary squad and men for water duties, and partly advisory as sanitary adviser of the officer commanding the unit, who was responsible for its sanitation and for loyal support being given by all ranks to the advice of the medical officer. The medical officer with a unit was also directly responsible to the administrative medical officer of the division under whom he acted. The sanitary organization of a regiment consists of one non-commissioned officer and eight men (one per company), who will be trained by the medical officer attached in their sanitary duties; they acted as sanitary police and not as scavengers. They should report themselves every morning to the medical officer, who would tell them off to their respective duties—one to visit the cookhouse, another the latrines, the refuse destructors, ablution places, etc., report anything defective, and see that the work of the fatigue parties was properly carried out. The medical officer would then make his inspection, and thereupon make such representations in writing to the officer commanding the unit as might be required. In the same way the medical officer would supervise the work of the men of the Royal Army Medical Corps attached to the unit for water duties. The duties of the men of the sanitary squad were to choose places, under the instructions of their company commanders, whenever a halt permitted time for the men to relieve themselves, and should see that all excreta were covered up by the men themselves. These precautions had all been acted upon in the regular army with most beneficial results. The men of the sanitary squad should wear an arm brassard inscribed "S. P." (sanitary police), and should be trained in their duties before going to camp. The sanitary organization of an army during war was next reviewed, consisting of R.A.M.C. sanitary sections, squads, and watermen, their distribution on the lines of communication, and duties.

Major J. R. Kaye, R.A.M.C.T., Sanitary Officer, West Riding Division, gave a summary of the statistics of modern wars, showing that five men fell through sickness to one from wounds, and how this had been reversed to one from death from disease to three from wounds in more recent instances.

After some observations by Honorary Colonel J. E. Eddison, Dr. Myers Coplans demonstrated his precipitation process for providing larger quantities than hitherto possible of drinking water for troops in the field—a process now under trial at the School of Sanitation, Aldershot.

There was also a demonstration of sanitary appliances such as would be used in the field, of refuse destructors, etc., constructed in the grounds of the barracks under Captain H. S. Roch, R.A.M.C., adjutant of the school, together with methods in operation of purifying water, Griffith heat exchange purifier, stationary type (specially lent by the Director-General Army Medical Service), a filter water cart, and hand filter pump. The medical equipment of a section of a field ambulance and of a battalion of infantry were also on view.

THE TERRITORIAL FORCE RESERVE.

A SPECIAL Army Order has been issued announcing that the King has been pleased to approve the creation of the Territorial Force Reserve. This reserve forms part of the Territorial Reserve to be constituted in accordance with the provisions of Section VII (6) of the Territorial and Reserve Forces Act. The formation of other branches of the Territorial Reserve is contemplated at an early date, and regulations will be published later.

INDIAN MEDICAL SERVICE.

IN the abstract of the minutes of the General Medical Council published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of March 12th, 1910, p. 98, the list of diplomas of the successful candidates for the Indian Medical Service should have been given as follows: Conjoint Board of England 4, Conjoint Board of Scotland 2, University of Durham 1, University of London 2, University of Manchester 1, University of Edinburgh 3, Royal University of Ireland 2. The two successful candidates who held degrees from the University of London also held diplomas from the Conjoint Board of England, and are included under both heads.

Public Health AND POOR LAW MEDICAL SERVICES.

FEES FOR CERTIFICATION OF WORKHOUSE LUNATICS.

C. S. W., a workhouse medical officer, asks whether he is entitled to a fee of 2s. 6d. each for certifying lunatics remaining under his care in the workhouse; also whether he is entitled to any fee for "signing up a lunatic *for* the workhouse."

*** No workhouse medical officer can claim any fee for certifying any case to *remain in the workhouse*. If, however, at any time he should be called on to certify any workhouse case for removal to asylum, he could claim the fee usually allowed—namely, one guinea.

DISEASES AND ACCIDENTS OF CHILDBIRTH.

ENQUIRER writes: In the tables sent out to medical officers of health for the purpose of the annual report one group of deaths is termed "diseases and accidents of childbirth." Does this apply to the mother or to the child, or to both?

*** To the mother only. In the supplement to *Public Health* for February, 1901, detailed information is given with respect to Table IV of the Local Government Board.

Medico-Legal.

A DEATH FROM HYDROPHOBIA.

AN inquest was held at Hackney Coroner's Court on March 26th on the body of George Edgar Seaman, aged 24, an ex-soldier of the Norfolk Regiment, who died from hydrophobia. It appeared from the evidence that Seaman, when stationed at Gibraltar, was bitten by a mad dog. He and another man who was bitten at the same time were sent to the Pasteur Institute at Paris in September. Seaman's comrade died within a month, but he came home, and no symptoms of hydrophobia displayed themselves until a week before, when he complained of pain in the elbow of the arm which was bitten. The pain spread to the shoulder, and then to the back of the neck. On March 28th Seaman's condition became desperate, and the next day he had to be removed to the Hackney Infirmary. Dr. John Joseph Gordon, Medical Superintendent of the Infirmary, said Seaman was a man of splendid physique, and had been medically examined and passed for the City Police. After his admission to the hospital it was decided to give him a hot bath. He was put into the bath, but jumped out like a cat. When he was about to be put into the bath a second time he jumped out again and became very violent. The mere mention of water started him into a terrible fright and it took the efforts of several attendants to restrain him. The mention of water and a draught from the door brought on a spasm. During all his terrible suffering Seaman was quite sensible and was able to give a collected and rational account of his illness and the treatment he had received in Paris. During the night his condition became worse. He was unable to breathe and he prayed the doctor to cut his throat so that air could be got into his respiratory organs. Morphine was injected in order to quieten him, but his condition was hopeless from the time he was admitted. A *post-mortem* examination was made, but nothing was found except a little inflammation of the brain and kidneys. From the symptoms Dr. Gordon concluded that Seaman died from hydrophobia. The jury returned a verdict of "Death from hydrophobia and from accidental causes."

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

THE OPINION OF A MEDICAL PRACTITIONER ON DISEASES IN HORSES.

W. C. R.—There can be no objection to an expert ophthalmologist giving an opinion as to the state of a horse's eye, and even, if necessary, appearing as a witness in litigation on the subject, although he might quite reasonably decline to pit his opinion against that of an equally competent veterinary expert.

THE COURTESY CALL.

QUERCUS, if he has called upon his professional neighbours, could not be expected to recognize those who do not return his call unless he had made their acquaintance at his visit, but as medical practitioners are unfortunately remiss about returning calls and answering letters, he should not "cut" any one he already knows merely because he has not returned the call.

Obituary.

JAMES ALLAN COUTTS, M.D.,

FORMERLY OF WATERFOOT.

WE regret to record the death on March 23rd at Southport of Dr. J. A. Coutts, late of Waterfoot, near Manchester. He had suffered for a number of years from paroxysms of tachycardia, occurring at irregular intervals, and traceable probably to an attack of rheumatic fever, as dilatation of the heart ultimately ensued and compelled him to give up work about eighteen months ago.

James Allan Coutts was born on August 30th, 1844, at Kincardine O'Neil, Aberdeenshire, and educated at Aberdeen University, where, after a brilliant career, he graduated M.B. and C.M. with highest academical honours in 1867, proceeding to the M.D. degree in 1871. He immediately entered on general practice at Banchory, Kincardineshire, but went to Rossendale in 1875 and settled at Waterfoot, where he succeeded to the practice formerly held by the late Dr. James Ross, of Manchester. Here he carried on for thirty-three years an extensive and varied practice; by his skill, geniality, and devotion to work gained the entire confidence of a large *clientèle*, and his opinion was much esteemed by his brother practitioners.

Dr. Coutts took little part in public affairs, but found time, in the midst of a busy practice, to keep well abreast of modern professional and scientific knowledge. His bright, cheery manner, kindness of heart, and wide knowledge and experience made him an ideal family medical adviser, and much regret was felt when failing health obliged him to relinquish work. His predominant characteristic was devotion to duty and a determination to do the best that lay in his power for his patients; and he may be said to have given his life to his work, as a prudent self-regard would have counselled a far earlier retirement. He was a member of the British Medical Association, Surgeon to the Post Office and Police, Honorary Associate of the Order of St. John of Jerusalem in England, and Examiner for the St. John Ambulance Association. His favourite recreations were travel and reading.

The funeral took place on March 26th at the Rawtenstall Cemetery, and was numerously attended by old friends and patients.

He leaves a widow, three sons, and two daughters to mourn his loss. His eldest son, Dr. J. A. Coutts, jun., is carrying on his father's practice.

Medical News.

THE Society of Medical Officers of Health, at its meeting on March 11th, adopted a resolution expressing the opinion that the enactment of the quinquennial enumeration of the population is essential to the promotion of the public health. The resolution does not necessarily mean that a full census should be taken in 1916 or other corresponding date, the opinion being that a simple enumeration of the population (sex and age) would be sufficient to furnish those checks of intercensal estimates of population which are necessary to make the national vital statistics accurate and reliable.

AT a meeting of the council of the new Association of Medical Officers of Health on March 24th, at the Holborn Restaurant, with Dr. Crookshank in the chair, a cordial vote of thanks was passed to the Poor Law Medical Officers' Association for its resolution, and appreciation of the proposed action of other bodies was expressed. It was reported by the Chairman and Dr. Gough that the Richmond and Altrincham Divisions of the British Medical Association had passed resolutions instructing their representatives at the next Representative Meeting to press for the rescission of Minute 234, and that other Divisions were considering the matter. It was agreed to hold a general meeting in London during the Annual Meeting of the British Medical Association, and that the meeting should be followed by a dinner, to which influential guests would be invited. The Honorary Secretary (Dr. Belilios) reported that at the last meeting of the Home Counties Branch of the Society of Medical Officers of Health, Dr. Crookshank had been nominated for the presidency of the society, in succession to Dr. Cooper Pattin, and it was unanimously agreed that steps be at once taken to support Dr. Crookshank at the election, which would take place at 1, Upper Montague Street, Russell Square, on April 8th, at 5 p.m.

A MEETING of the Pellagra Investigation Committee was held on March 14th, Sir Lauder Brunton in the chair. It was resolved that Dr. Sambon be instructed to proceed at once to Italy. The money actually in hand amounts only to one-fifth of the minimum sum required, but the committee hopes to be able to secure such sums as have been offered conditionally, and for that purpose formed amongst themselves a guarantee fund, which was liberally subscribed to. The donations so far received are: Lord Pirrie, K.P., £5; Sir Charles MacLaren, M.P., £1 1s.; Henry Bubb, Esq., £20; the Countess Caesaresco, £5 5s.; Jeyes Sanitary Compound Company, £20; the Hon. Mrs. Blyth, £1 1s.; the Sanitas Company, £10 10s.; Arthur F. Levita, Esq., £10 10s.; London School of Tropical Medicine, £10; Liverpool School of Tropical Medicine, £10 10s.; Messrs. Oppenheimer, Sons, and Co., £5 5s.; F. G. Lawson, Esq., £1 1s.; Albert Profumo, Esq., £2 2s.; Thomas Holloway, Esq., £1 1s.; W. H. Lever, Esq., £5; G. A. Tonge, Esq., £5; Harry W. Birks, Esq., £1 1s.; B. L. Hue Williams, Esq., £2 2s.; J. B. Hurry, Esq., £2 2s. Captain Siler, United States Army, is a member of the Field Commission, and two assistants, Messrs. Baldini and Amoruso, were appointed to accompany Dr. Sambon. The Field Commission left on March 19th.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

The offices of the British Medical Association and of the British Medical Journal are at 429, Strand, London.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

F. W. M. P. asks for references to recent books or articles on bookkeeping for medical men. He is anxious to know which is the best form of ledger for a general practitioner.

Alpha asks the best and quickest means of exterminating bugs that have got into the walls and woodwork of a tenement house.

Hernia and Eczema.

H., who has a patient aged 71 with an ordinary inguinal hernia who cannot wear an ordinary truss because of severe eczema of the groin, asks for a remedy. If the truss is worn for only two hours, the itching and discomfort are intense. The eczema sometimes seems to be quite cured, but directly the truss is worn it returns.

Motor Car and Servant Licences.

Hermit has been threatened with proceedings unless he pays a compromise fine of 20s. because his licence duties were not paid by March 3rd. He asks if he can be punished for not paying taxes which are not legalized.

*** The licences referred to are "establishment licences," which are leviable without the authority of a Finance Act. If our correspondent has had due notice from the authorities requiring him to pay, or reminding him of the non-payment of the duties, he has incurred the penalties, and will probably find it best to accept the alternative and agree to the proffered compromise.

ANSWERS.

Sore Tongue.

J. C. H. P. writes: If "J. D. D." (British Medical Journal, March 12th, p. 672) will look up *Quain's Dictionary of Medicine*, he will find a description of the affection. I have suffered twice myself from it (1909 and 1910). It is most troublesome to treat. On both occasions I found it brought on by eating raw celery. His patient must not only give up absolutely tobacco, but alcohol, raw vegetables, and most cooked vegetables, spices of every description, hot and cold foods and drinks, and, in fact, everything which irritates the tongue. I found cascara and saline purgatives most useful. If, as is at times the case, there is a suspicion of a specific taint, 5 minims of Donovan's solution with 10 minims of tincture of nux vomica once a day in plenty of water will be usually ample.

The Induction of Abortion.

Nephritis.—(1) Induction of labour should not be undertaken before the age of reputed viability—namely, twenty-eight weeks—except as the result of a decision reached at a formal consultation, and even then it is better to obtain the written consent of the patient or her friends. The common view on this point was formally approved by the British Medical Association when the Annual Representative Meeting at Sheffield in 1908 adopted a report on the ethics of consultation submitted by the Central Ethical Committee. Among other things, that report indicated certain circumstances in which it was "especially the duty of the practitioner in attendance to endeavour to obtain the assistance of another opinion." One of them was, "When a question arises of destruction of a fetus or unborn child in the interest of the mother, especially if she is not in labour." (2) The temporary introduction of the point of a soft bougie into the uterus is not certainly effective at any period, especially so early as "about the third month"; and any attempt to perform uterine douching would probably be dangerous. In women who have borne children it is commonly feasible at this early stage to complete the matter at one sitting, the cervix being dilated instrumentally and the uterus cleared with the finger; but in primiparae and many other cases the cervix may be far too rigid at this date to permit of sufficient dilatation without risk of tearing. In such case a little gauze may be introduced into the cervical canal and the vagina packed with the same material. This is likely to lead to more or less complete separation or extrusion of the ovum, the case being thereafter treated as one of accidental abortion. Absolute cleanliness should be observed throughout, and the patient kept in bed subsequently for not less than ten days. The relation of the day on which the operation is performed to that which, in the absence of pregnancy, would have been the commencement of a menstrual period, is not of importance, but there is distinct advantage in choosing a date anterior to that at which the placenta is fully formed.

Ionic Medication.

E. J.—A large number of articles have appeared during the past two or three years dealing with ionic medication. Since the sources of these articles may not be available to our correspondent, it may be sufficient to refer him to Dr. Lewis Jones's excellent paper on The Principles of Ionic Medication, read before the Electrotherapeutic Section of the Royal Society of Medicine and published in the *Proceedings*, vol. i, 1908, pp. 65–82, which also contains a report of the discussion. Two books on the subject were published in 1908: S. Leduc, *Les ions et les médications ioniques* (Paris, Masson and Cie., 1907—translation by Mackenna, published under the title *Electric Ions and their Use in Medicine*, London, Rebman, Limited, 1908), and Tibbles, *The Theory of Ions, a Consideration of its Place in Biology and Medicine* (London, Rebman Limited, 1908). In view of the fact that the whole subject is at present to some extent in the experimental stage, it is impossible to enter into a detailed account of the manner in which the charged anions are supposed to exert an action on the various pathological processes. Our correspondent will find the theories which have been formulated in this connexion in the works mentioned above.

LETTERS, NOTES, ETC.

The Value of an Exclusive Proteid Diet.

Dr. Ernest Young writes to point out that the 2 oz. of minced meat recommended in his pamphlet would only be a minimum, and that the quantity may be increased up to 8 or 10 oz. of a meal, and therefore it is not such an extremely low diet as our review suggested; but according to our experience there would be some difficulty in getting patients to take more than 4 or 6 oz. at one meal. In the directions for taking hot water, our review should have stated that it is to be taken from one and a half to one and a quarter hours before a meal and three and a half hours after the last meal; by a slip this read "from half to three and a half hours after meals."

The Medical Parliamentary Roll.

Dr. S. D. Clippingdale (London) writes: I do not understand Dr. Brown's assertion that James VII was "never crowned King of Scotland." If Scotland at that time was a kingdom it must have had its king. If that king was not James VII will Dr. Brown kindly say who was? Perhaps the handiest work of reference is *Burke's Peerage*, prefaced to which is a list of all the English and Scottish coronations. In that list James II of England and VII of Scotland is stated to have been "crowned 23 April, 1685" and to have received the same titles as his father and grandfather had received—namely, "King of England, Scotland, France, and Ireland, Defender of the Faith, etc." In the official Blue Book (Parliamentary paper No. 69) dealing with the period, an account is given of "The First Parliament of King James VII held and begun at Edinburgh 23 April, 1685." In the biography of James in the *Dictionary of National Biography* it is stated that the Scottish Parliament voted him an income one-third larger than they had voted his brother Charles. If the Scottish people did not recognize James as their king, why did they vote him an income at all? With regard to Dr. Brown's other statement that one cannot speak "Britannically" before 1707 (in which year the Scottish and English Parliaments fused), it must be pointed out that from the time of James I the sovereigns of all three kingdoms had been crowned at Westminster. There was no recrowning at Edinburgh or at Dublin.

The Story of Samson.

M.B., C.M., writes: Some time ago the story of Samson was recalled to my memory by a sermon on the subject, described as beautiful though having little practical application. Samson, a noted athlete, living a somewhat loose life—at Gaza he "saw there an harlot, and went in unto her"—loses his strength and his hair. Happening to-day it would at once suggest that the man had contracted syphilis. Is this not the explanation of what occurred in Samson's case? If so it would give point to the Bible story and afford an admirable subject for a very practical sermon. At the same time it would remove the opprobrium from the Neapolitans, the French, and the Americans of being the originators of the disease. If Samson is the original of Hercules, the illnesses of the latter would to some extent corroborate this theory, though it might not be possible to make much of the fact, according to Lemprière, that Hercules was handed over to Mercury for a three years' course of treatment. They knew a good deal more "down in Judee" than we sometimes give them credit for.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and if not paid for at the time, should be accompanied by a reference

Note.—It is against the rules of the Post Office to receive postes *Restante* letters addressed either in initials or numbers.